

# SIDC Space Weather Briefing

07 March 2021 - 14 March 2021

Jesse Andries & Thanassis Katsiyannis  
& the SIDC forecaster team



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Summary Report

Solar activity from 2021-03-07 12:00 to 2021-03-14 23:59

Active regions	3 regions 2807, 2808, 2809, most active was 2808.
Flares	# C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filament eruptions	None
Coronal Holes	Southern CH-

Proton flux	Background
Electron flux	Moderate and decayed to low to moderate only at end of week before rising again

Solar wind and geomagnetic conditions

ICME	none
SW Conditions	B : 0.56 - 15.18 nT // Bz: -11.34 nT to 11.0 nT // Speed: 322.2 - 596.8km/s
K-indices	max K-index (Dourbes): 5 max Kp-index (NOAA): 5

All Quiet Alert: briefly on between 9/3 and 10/3

# Solar Activity

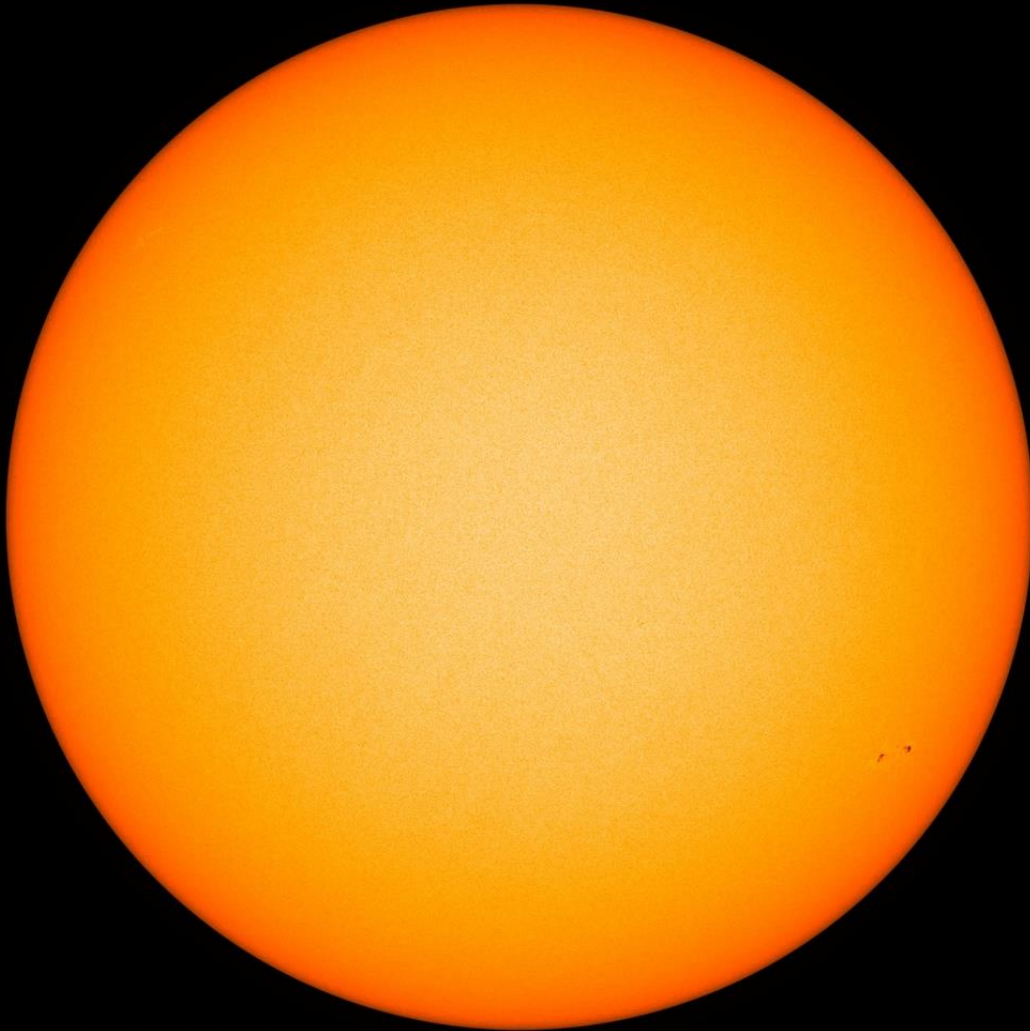


Royal Observatory  
*of* Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

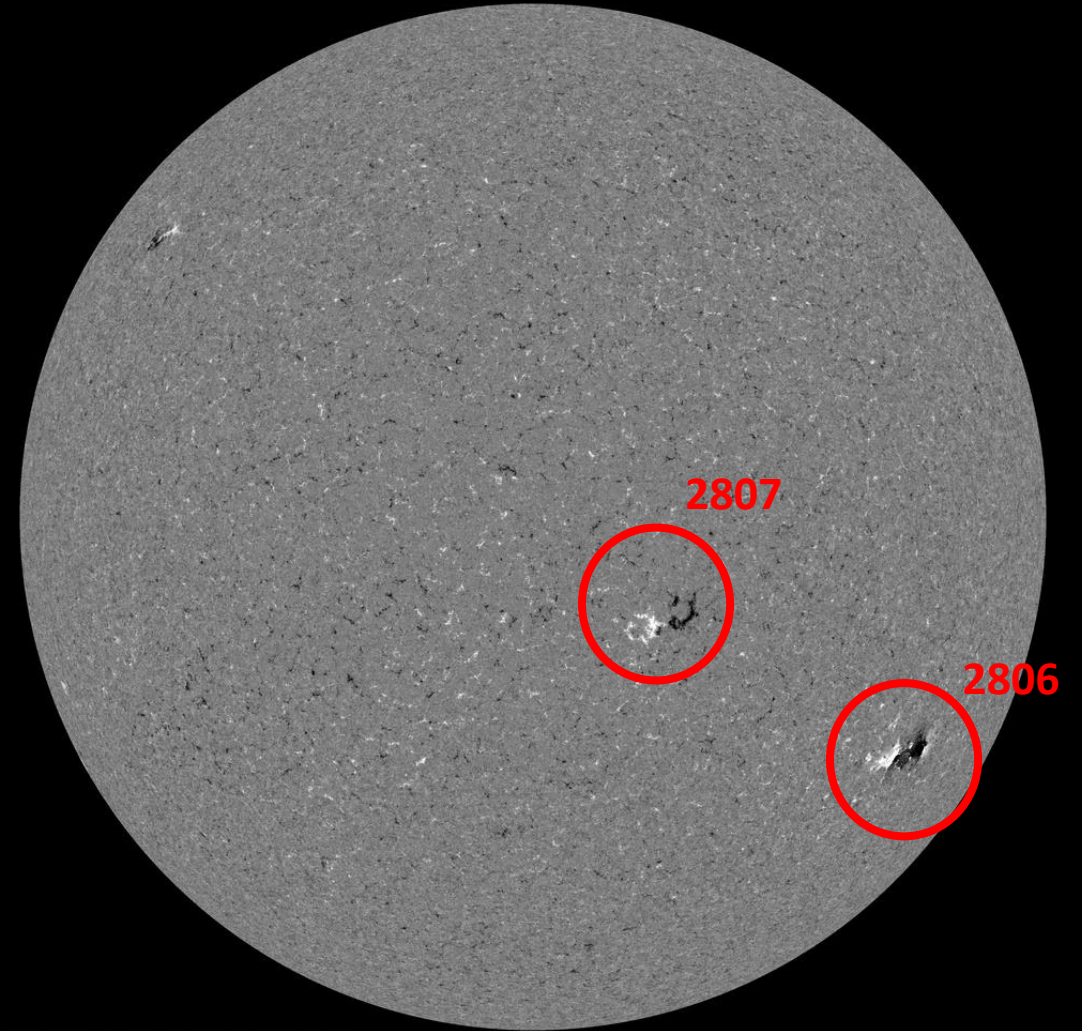
# Solar active regions

SDO/HMI White Light 2021-03-07



SDO/HMI Quick-Look Continuum: 20210307\_114500

SDO/HMI Magnetogram 2021-03-07

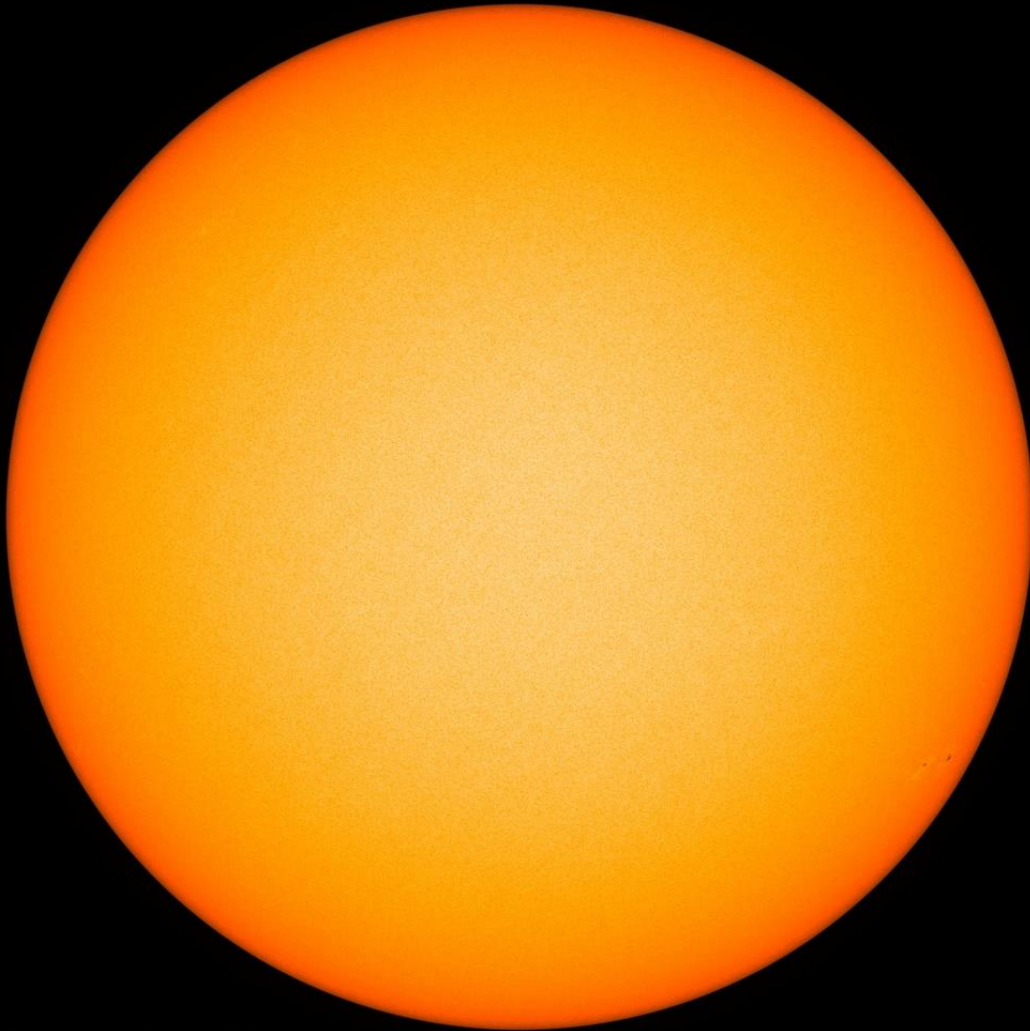


SDO/HMI Quick-Look Magnetogram: 20210307\_114500



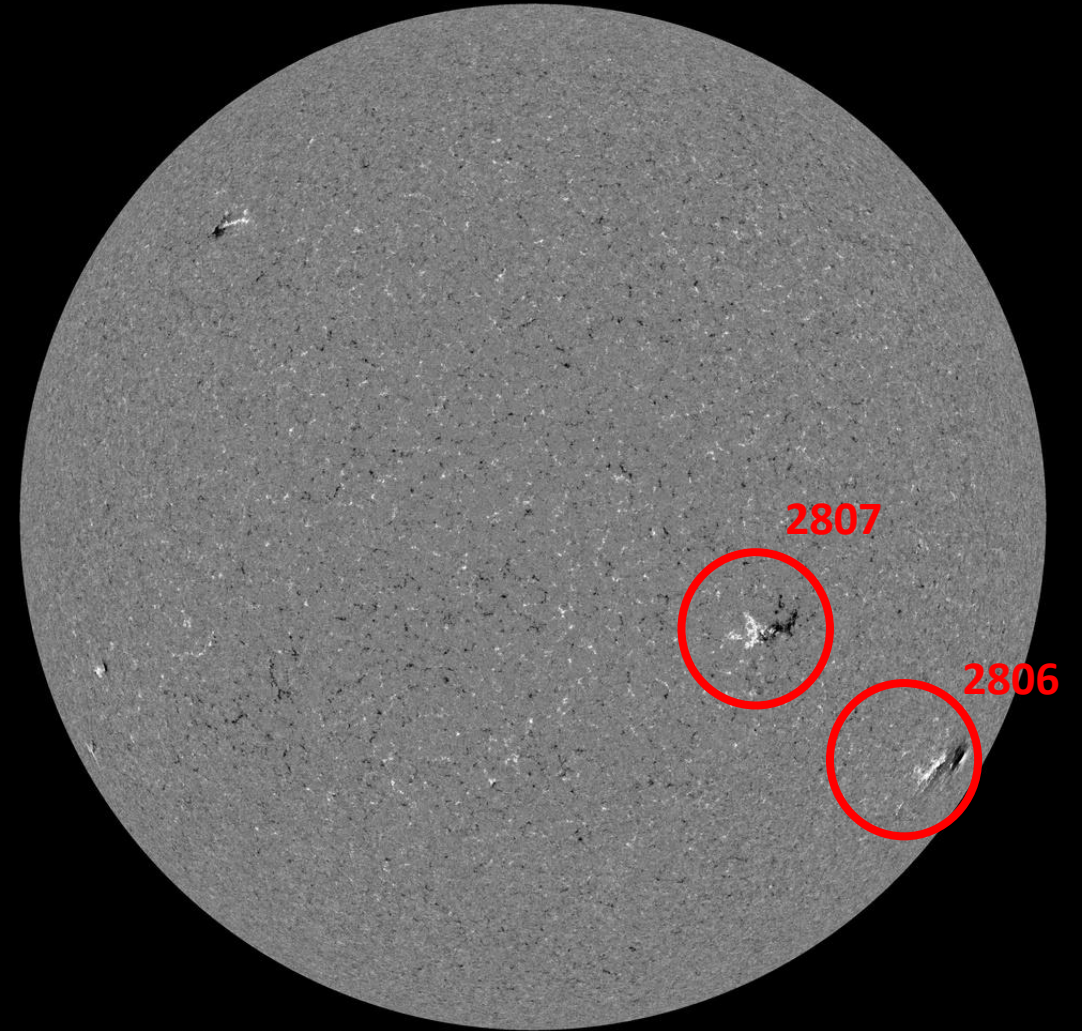
# Solar active regions

SDO/HMI White Light 2021-03-08



SDO/HMI Quick-Look Continuum: 20210308\_120000

SDO/HMI Magnetogram 2021-03-08

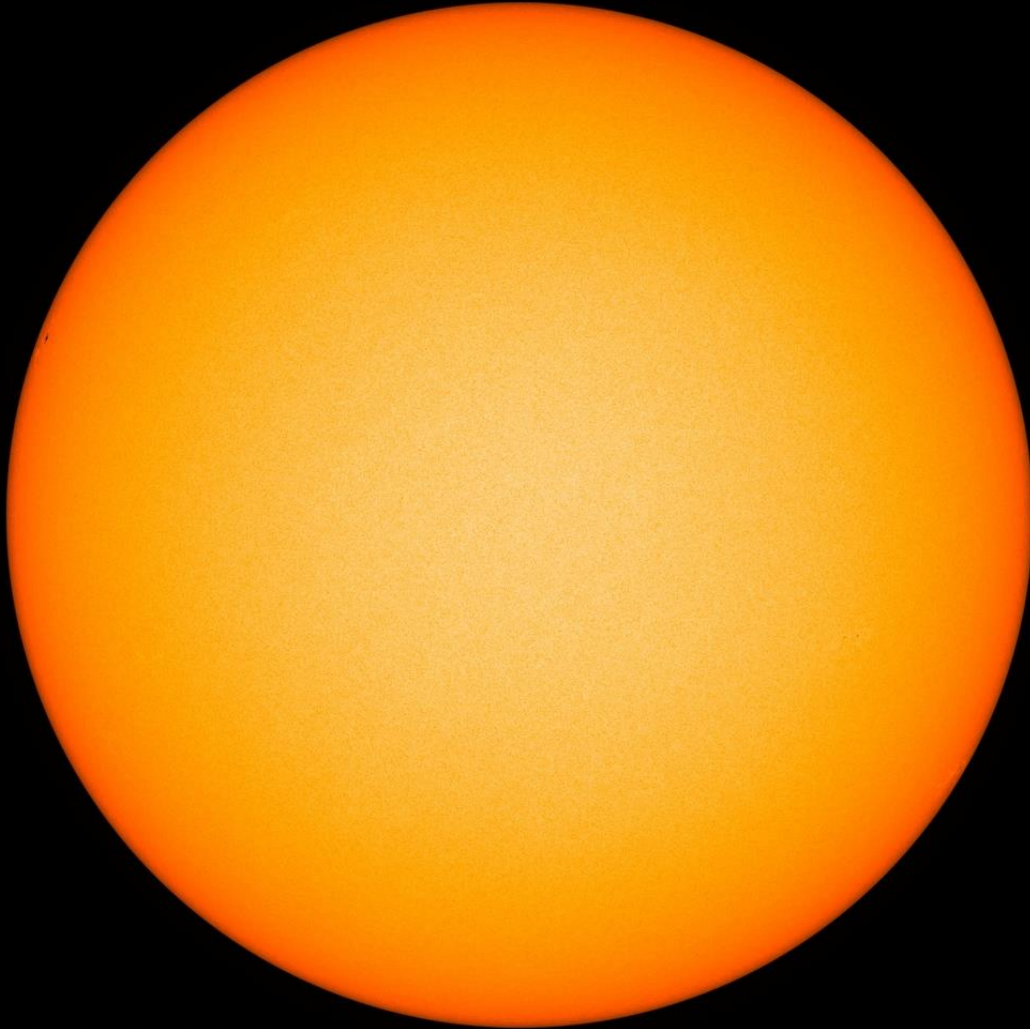


SDO/HMI Quick-Look Magnetogram: 20210308\_114500



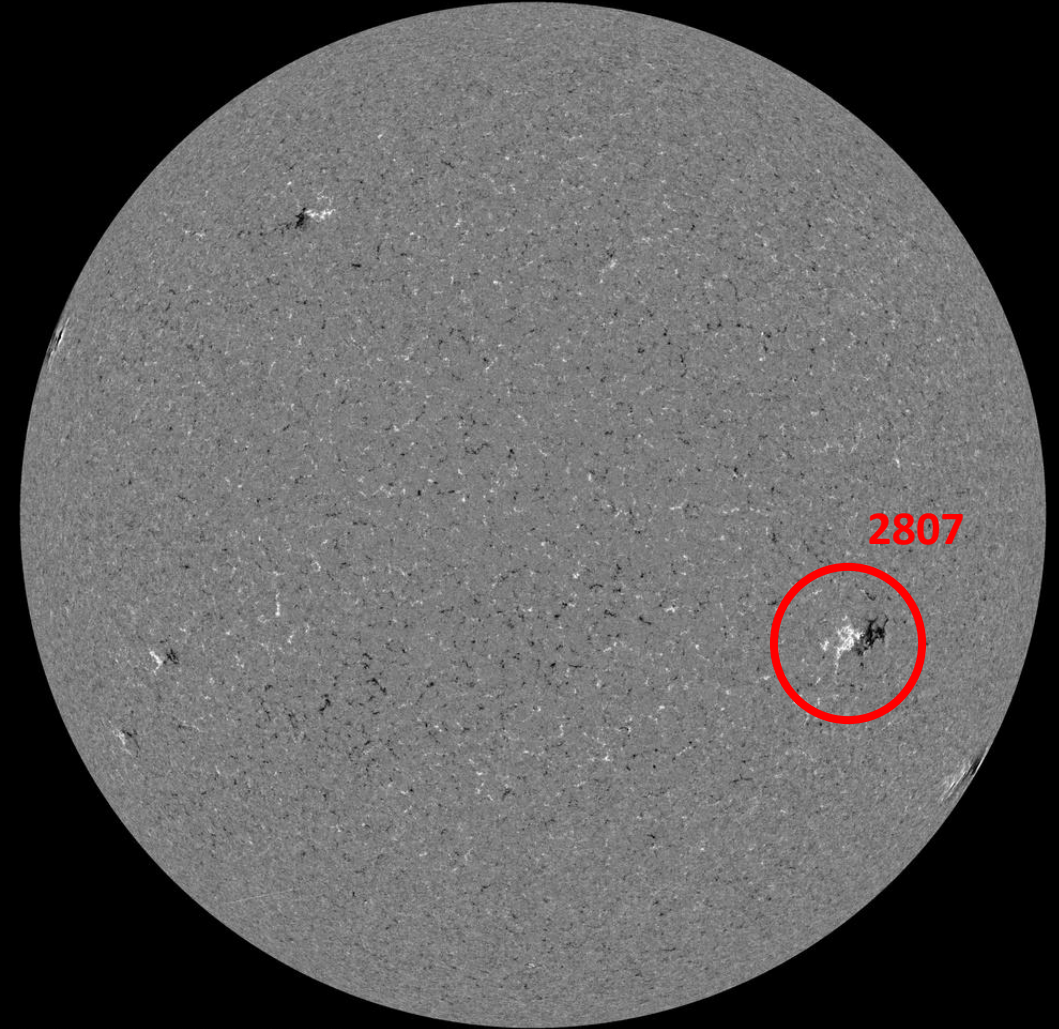
# Solar active regions

SDO/HMI White Light 2021-03-09



SDO/HMI Quick-Look Continuum: 20210309\_114500

SDO/HMI Magnetogram 2021-03-09

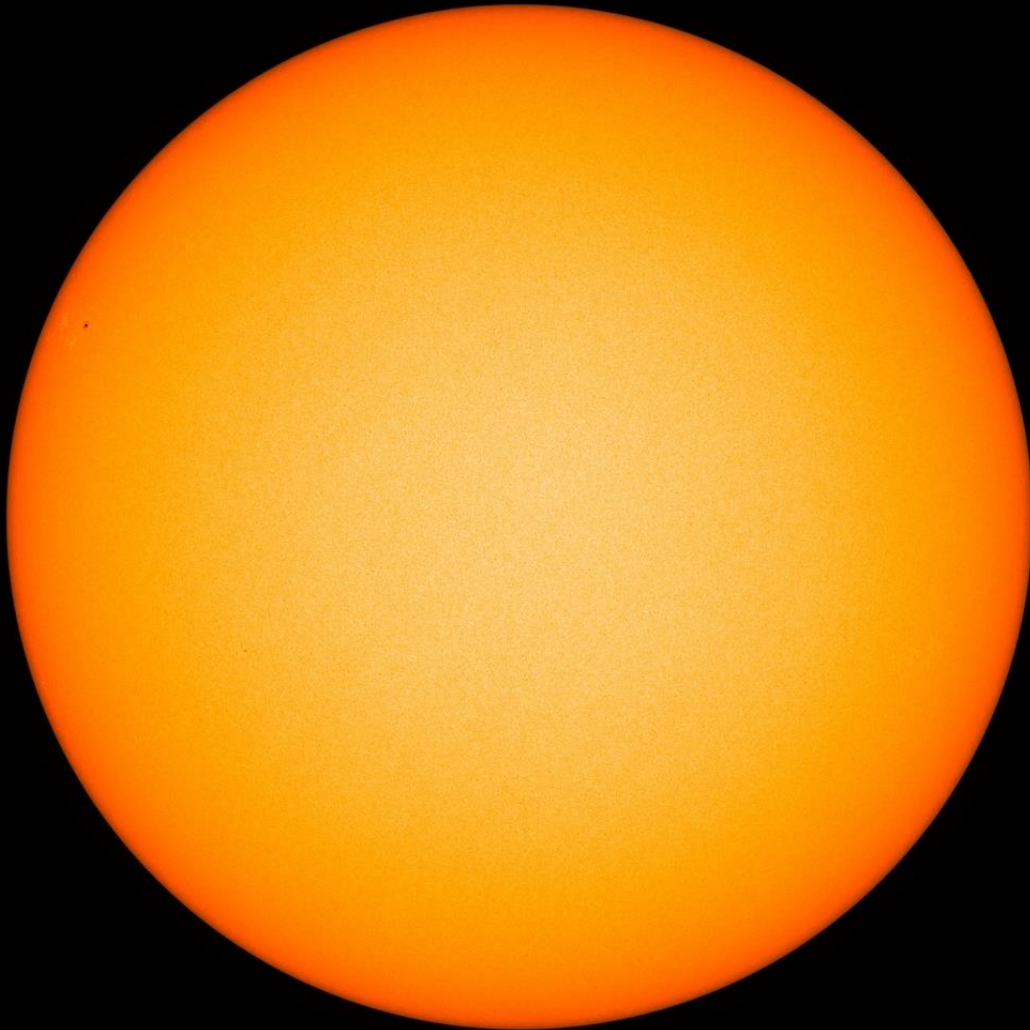


SDO/HMI Quick-Look Magnetogram: 20210309\_114500



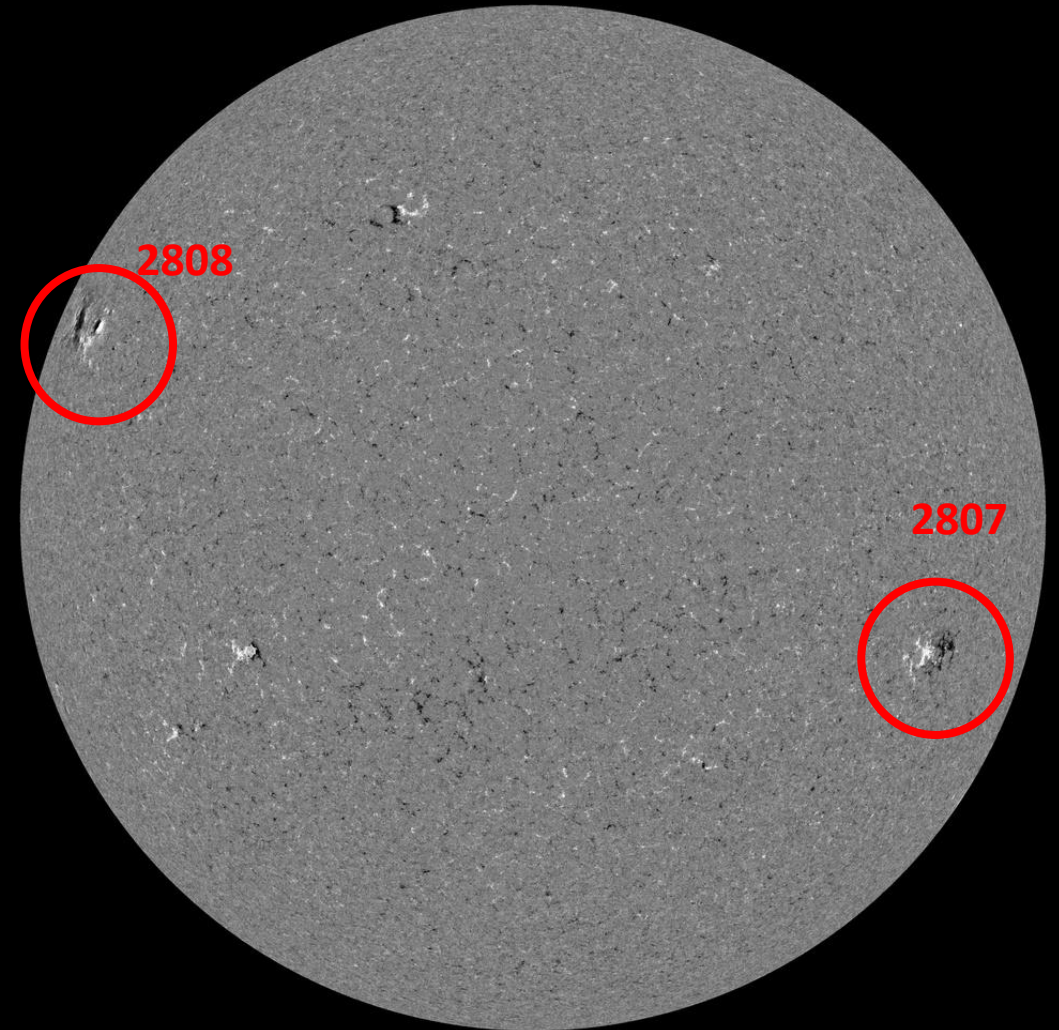
# Solar active regions

SDO/HMI White Light 2021-03-10



SDO/HMI Quick-Look Continuum: 20210310\_120000

SDO/HMI Magnetogram 2021-03-10

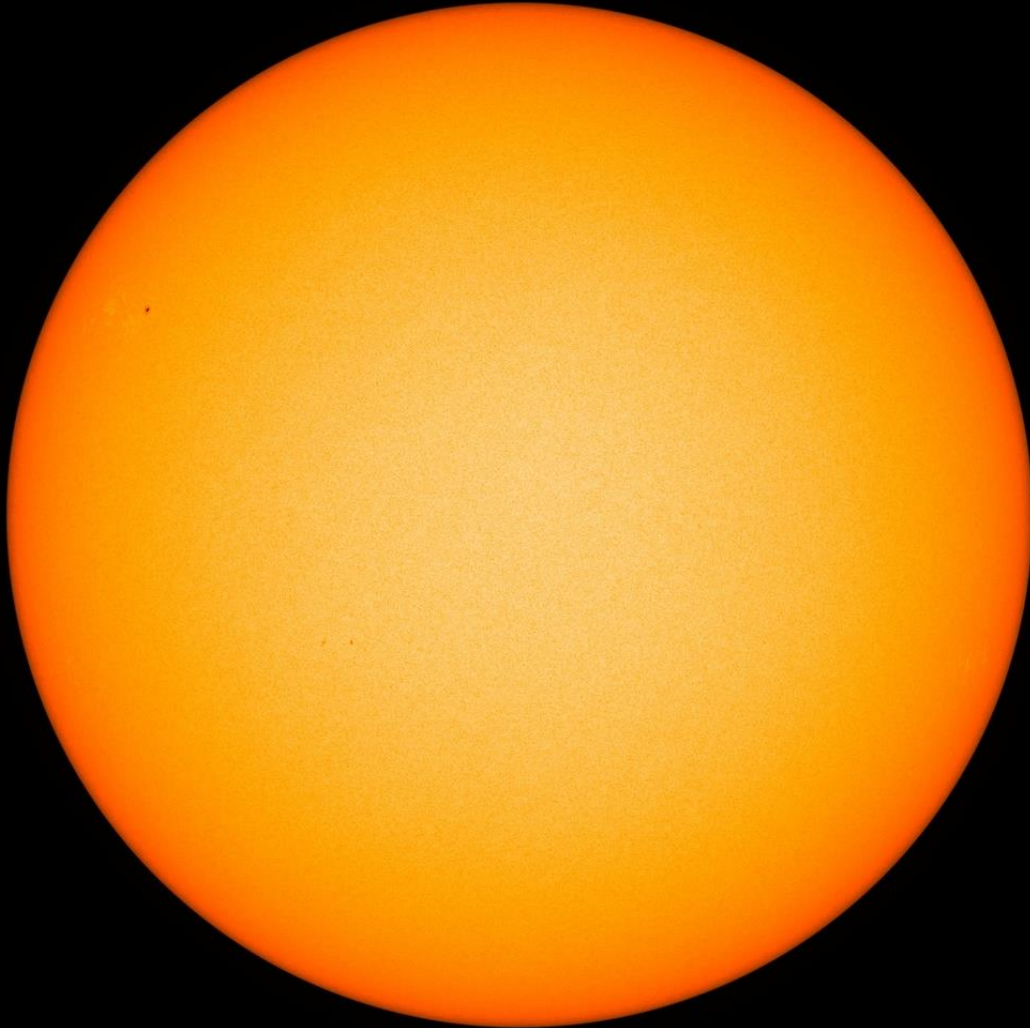


SDO/HMI Quick-Look Magnetogram: 20210310\_114500



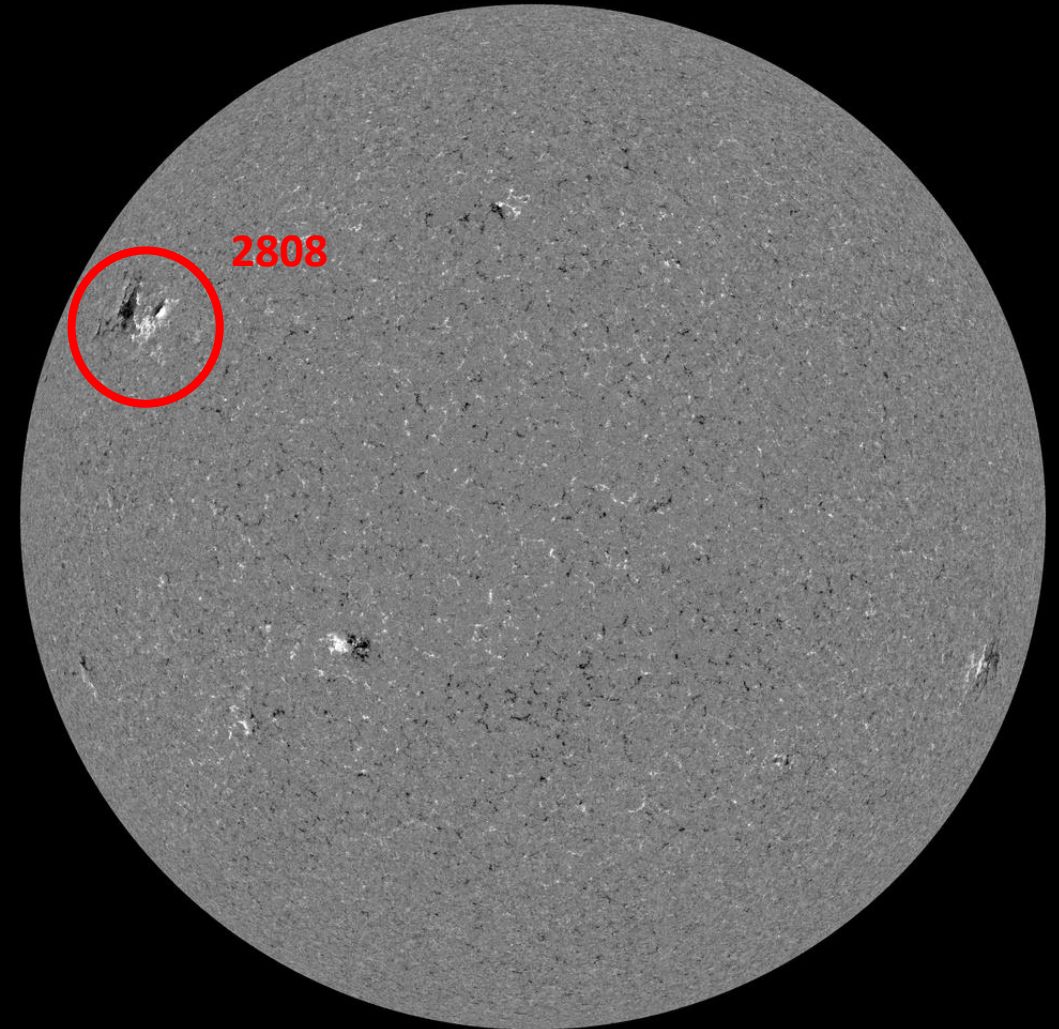
# Solar active regions

SDO/HMI White Light 2021-03-11



SDO/HMI Quick-Look Continuum: 20210311\_114500

SDO/HMI Magnetogram 2021-03-11

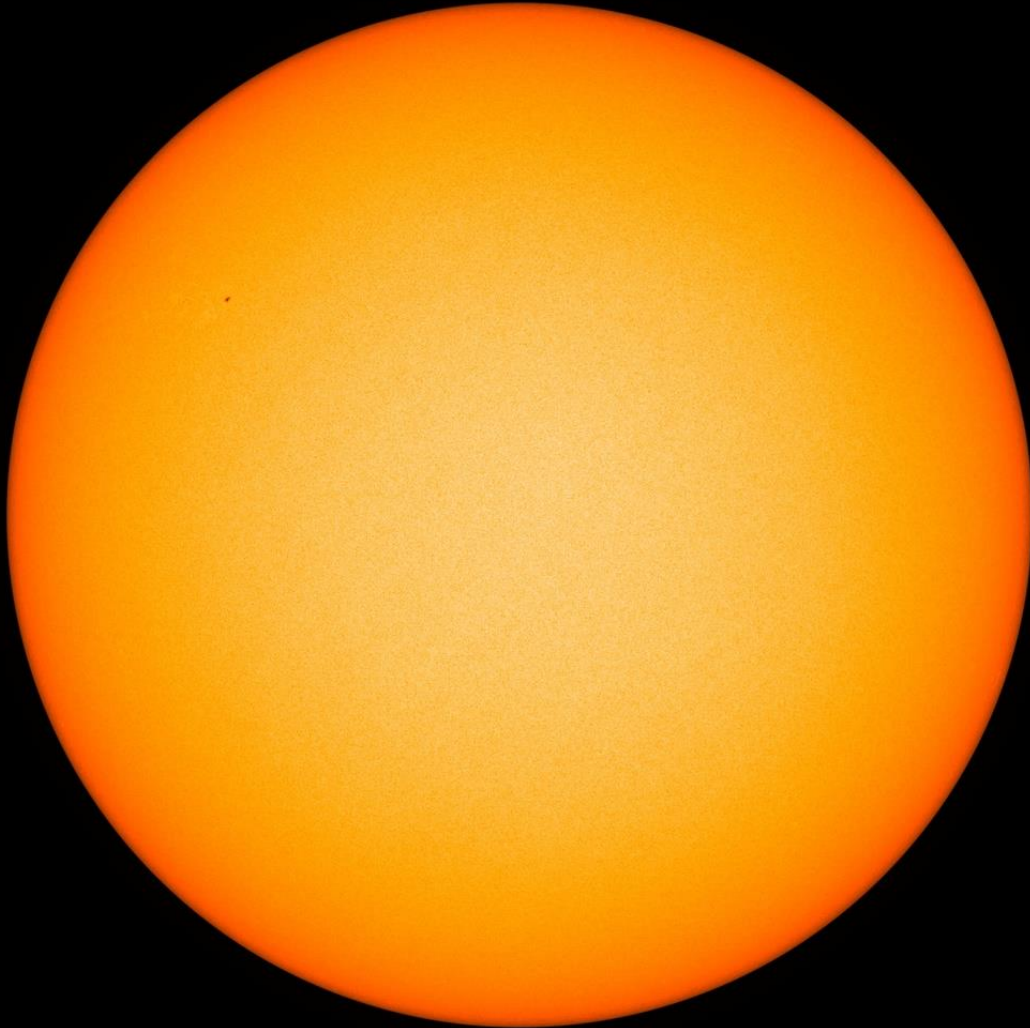


SDO/HMI Quick-Look Magnetogram: 20210311\_114500



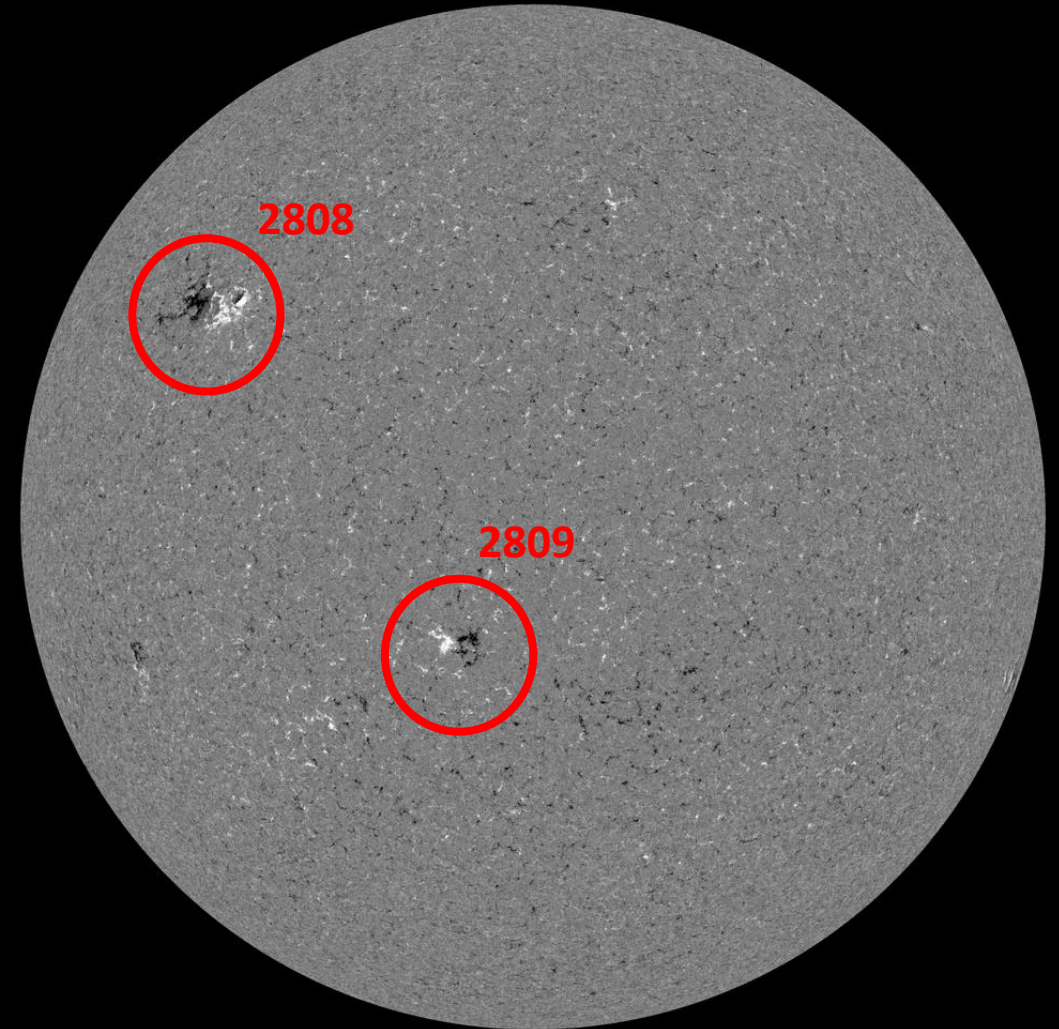
# Solar active regions

SDO/HMI White Light 2021-03-12



SDO/HMI Quick-Look Continuum: 20210312\_114500

SDO/HMI Magnetogram 2021-03-12

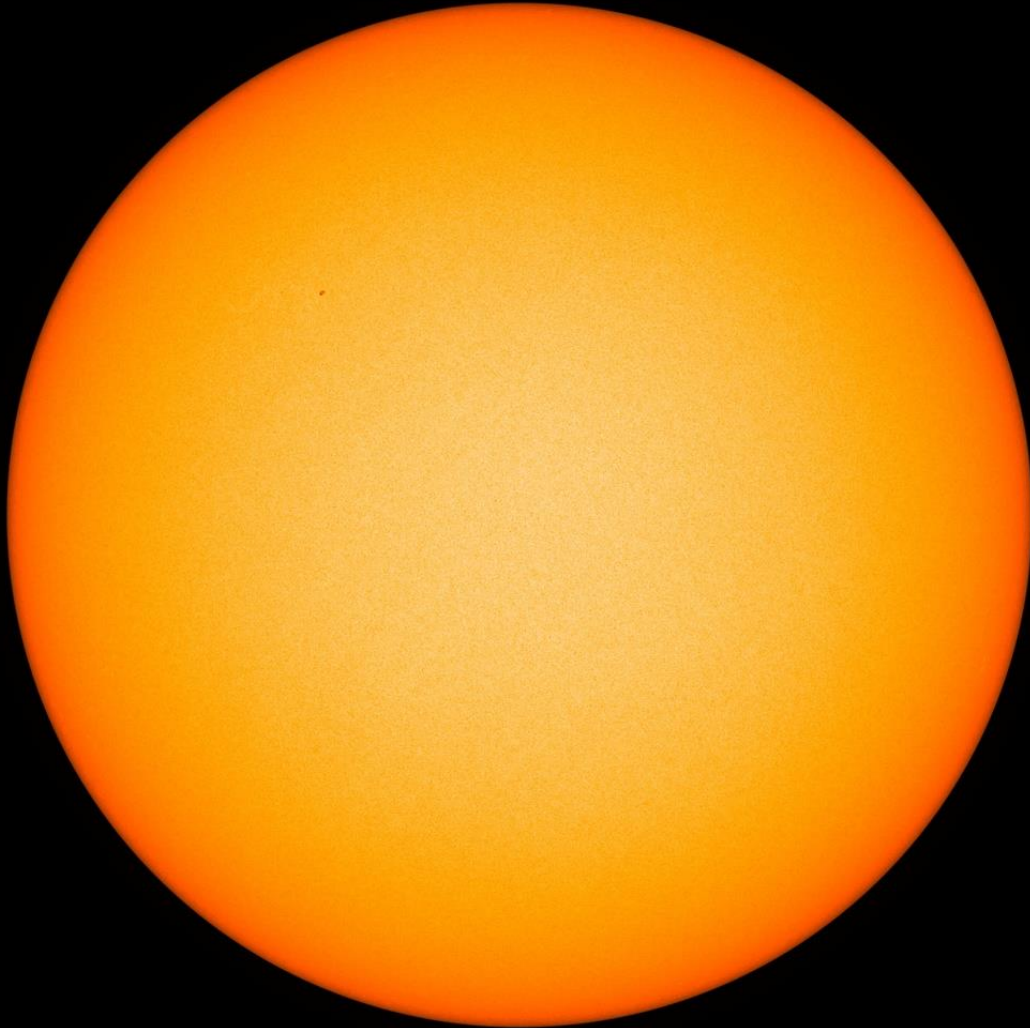


SDO/HMI Quick-Look Magnetogram: 20210312\_114500



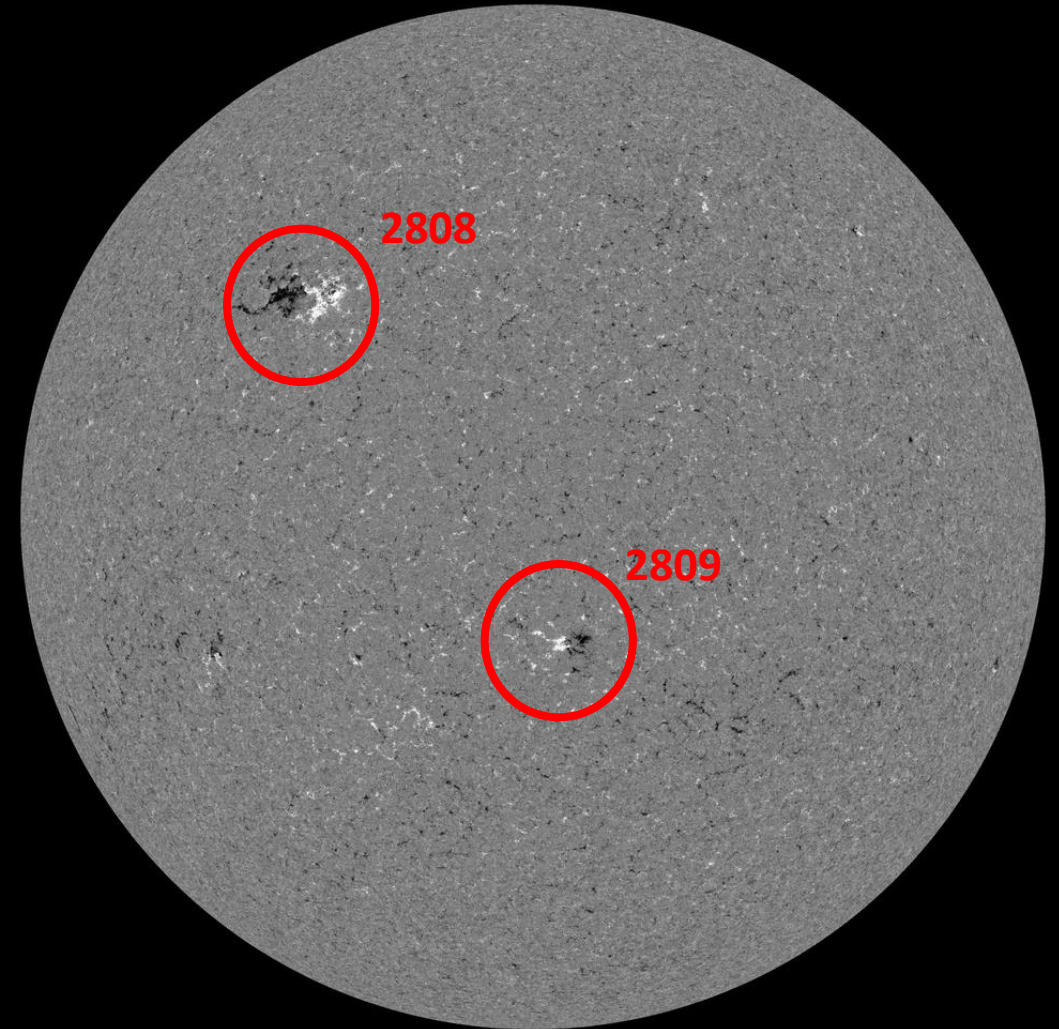
# Solar active regions

SDO/HMI White Light 2021-03-13



SDO/HMI Quick-Look Continuum: 20210313\_114500

SDO/HMI Magnetogram 2021-03-13

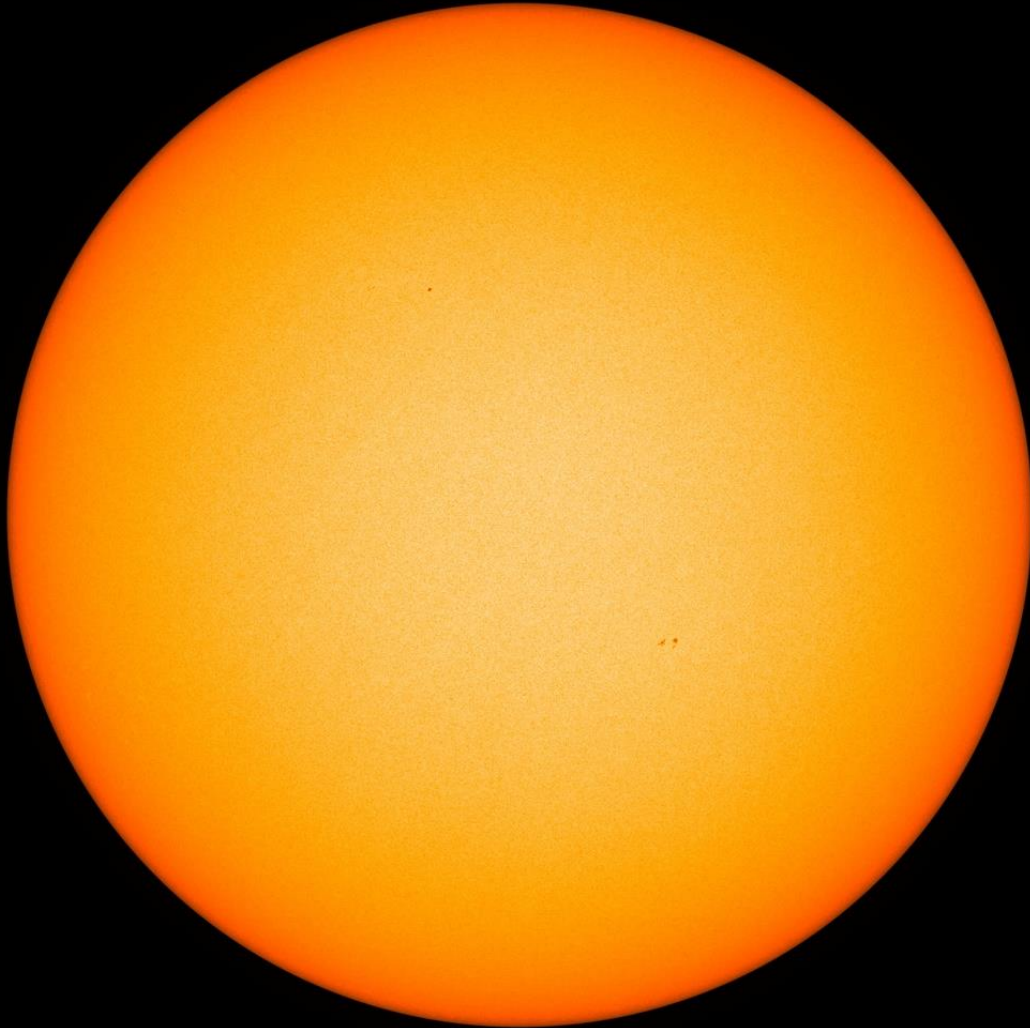


SDO/HMI Quick-Look Magnetogram: 20210313\_114500



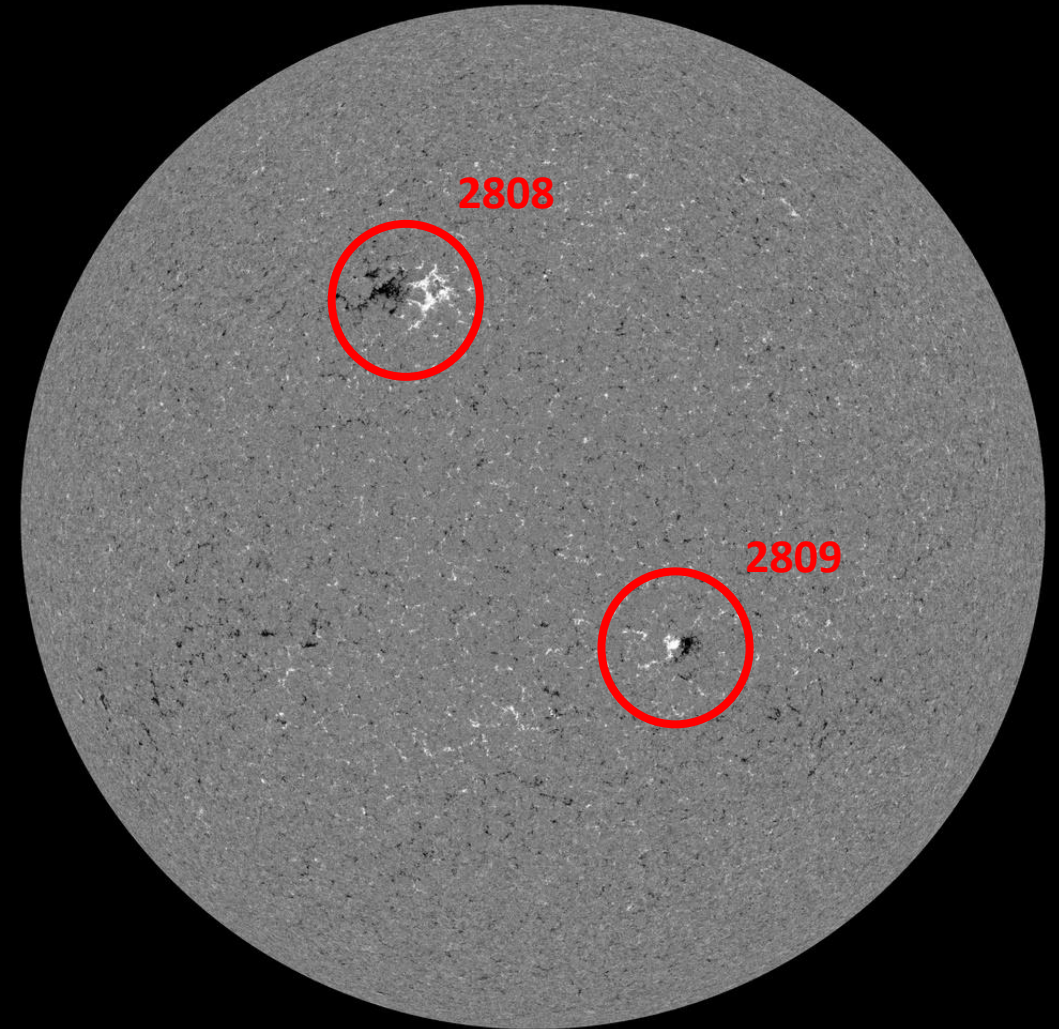
# Solar active regions

SDO/HMI White Light 2021-03-14



SDO/HMI Quick-Look Continuum: 20210314\_120000

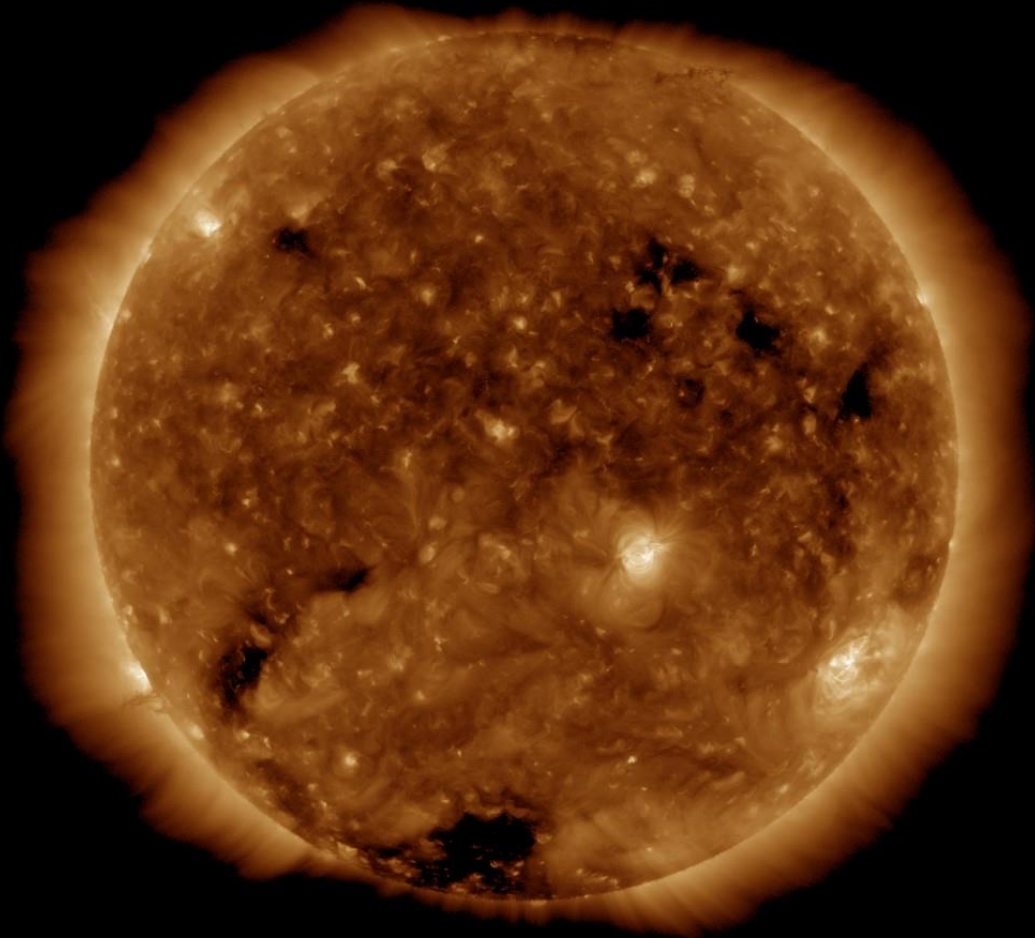
SDO/HMI Magnetogram 2021-03-14



SDO/HMI Quick-Look Magnetogram: 20210314\_114500

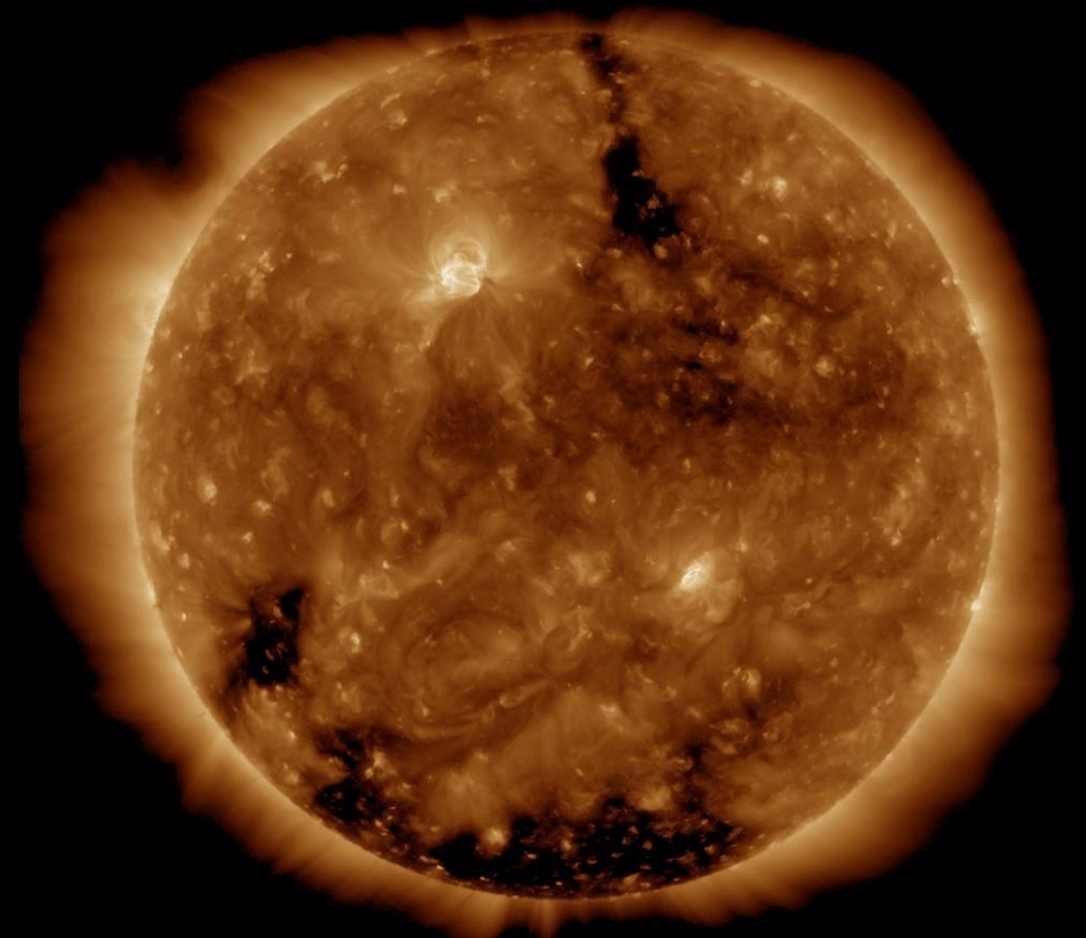
# Coronal holes

SDO/AIA 19.3 nm 2021-03-07



SDO/AIA 193 2021-03-07 12:18:29 UT

SDO/AIA 19.3 nm 2021-03-14



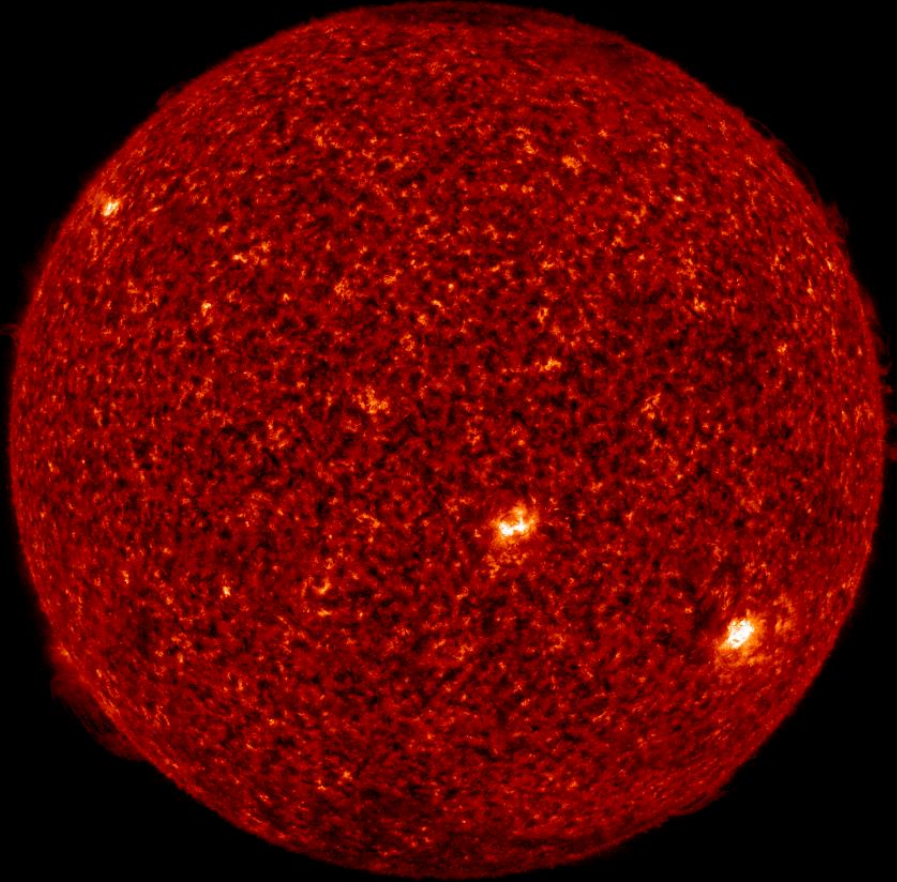
SDO/AIA 193 2021-03-14 12:18:17 UT



# Filaments

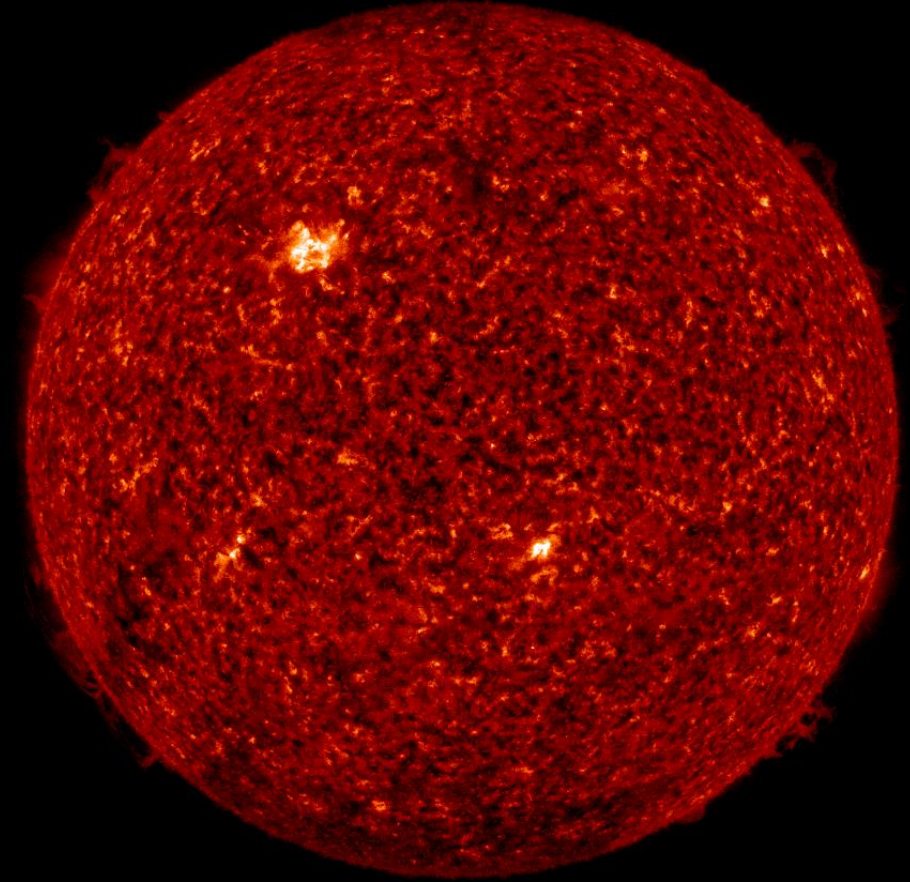
SDO/AIA 30.4 nm 2021-03-07

SDO/AIA AIA 304Å 2021-03-07T00:00:06.598

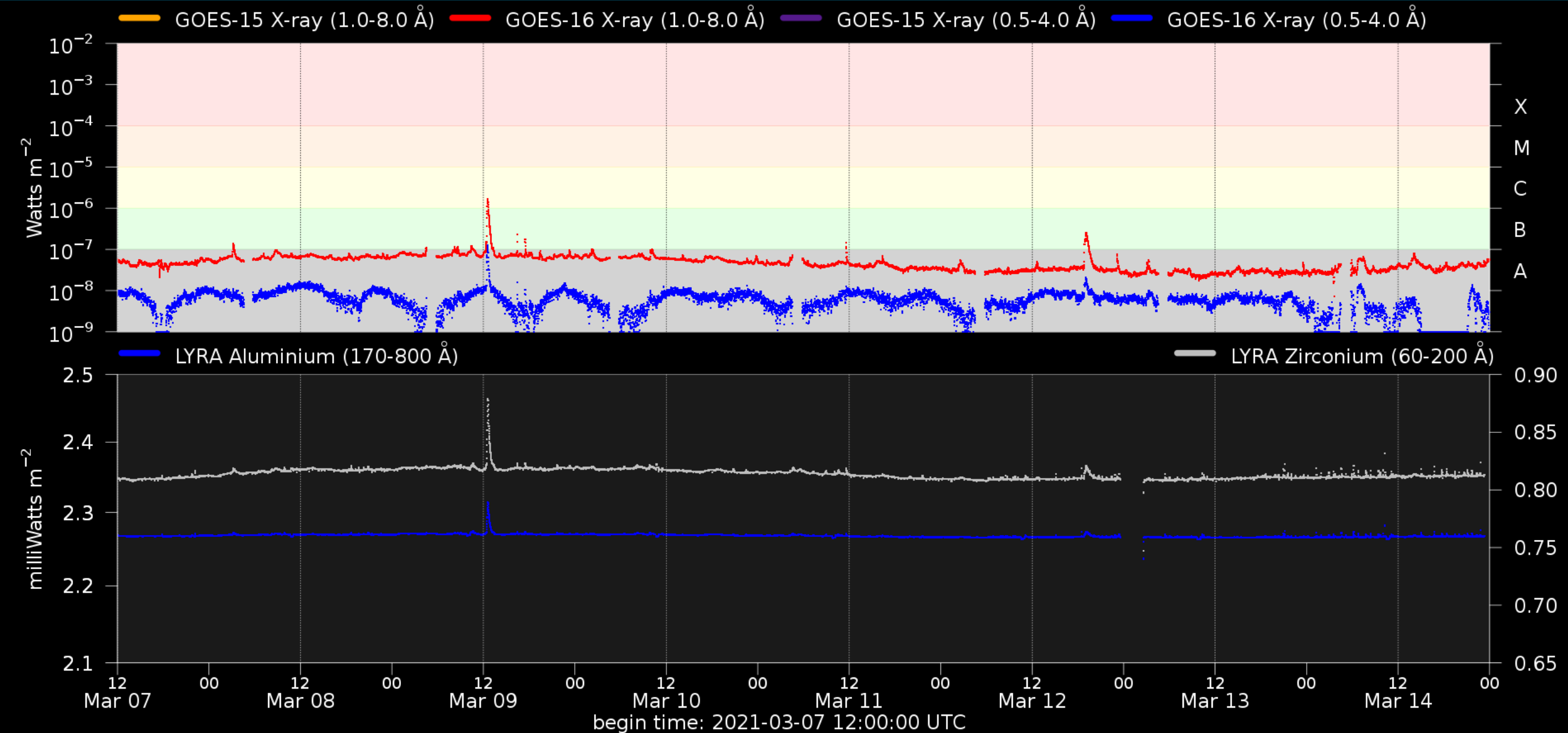


SDO/AIA 30.4 nm 2021-03-14

SDO/AIA AIA 304Å 2021-03-14T00:00:06.581

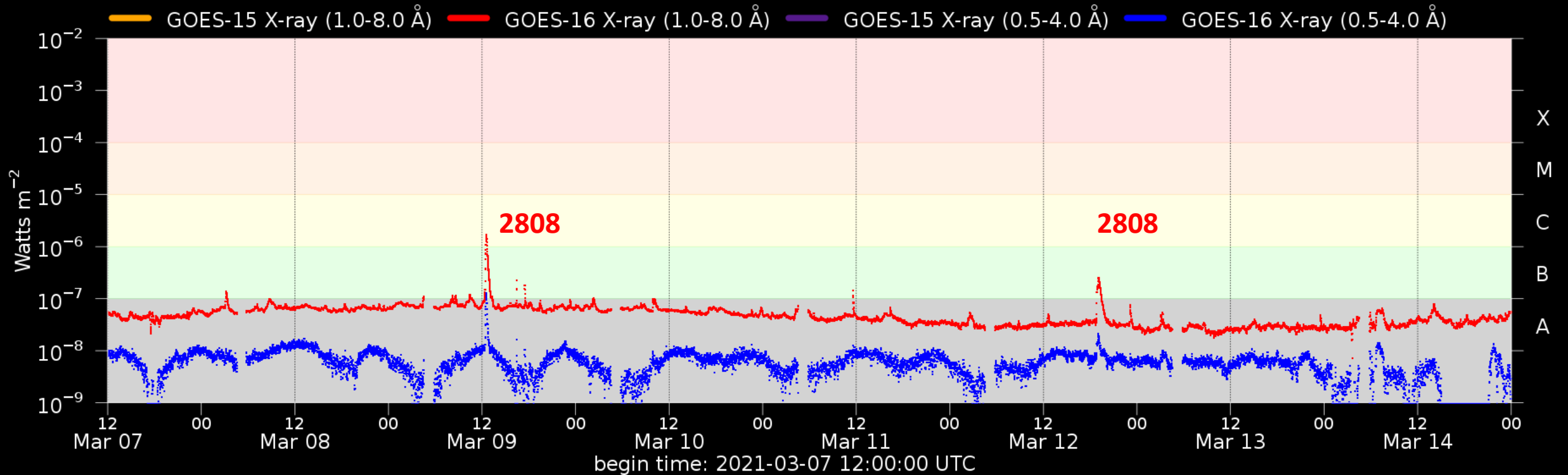


# Solar X-Ray and UV flux





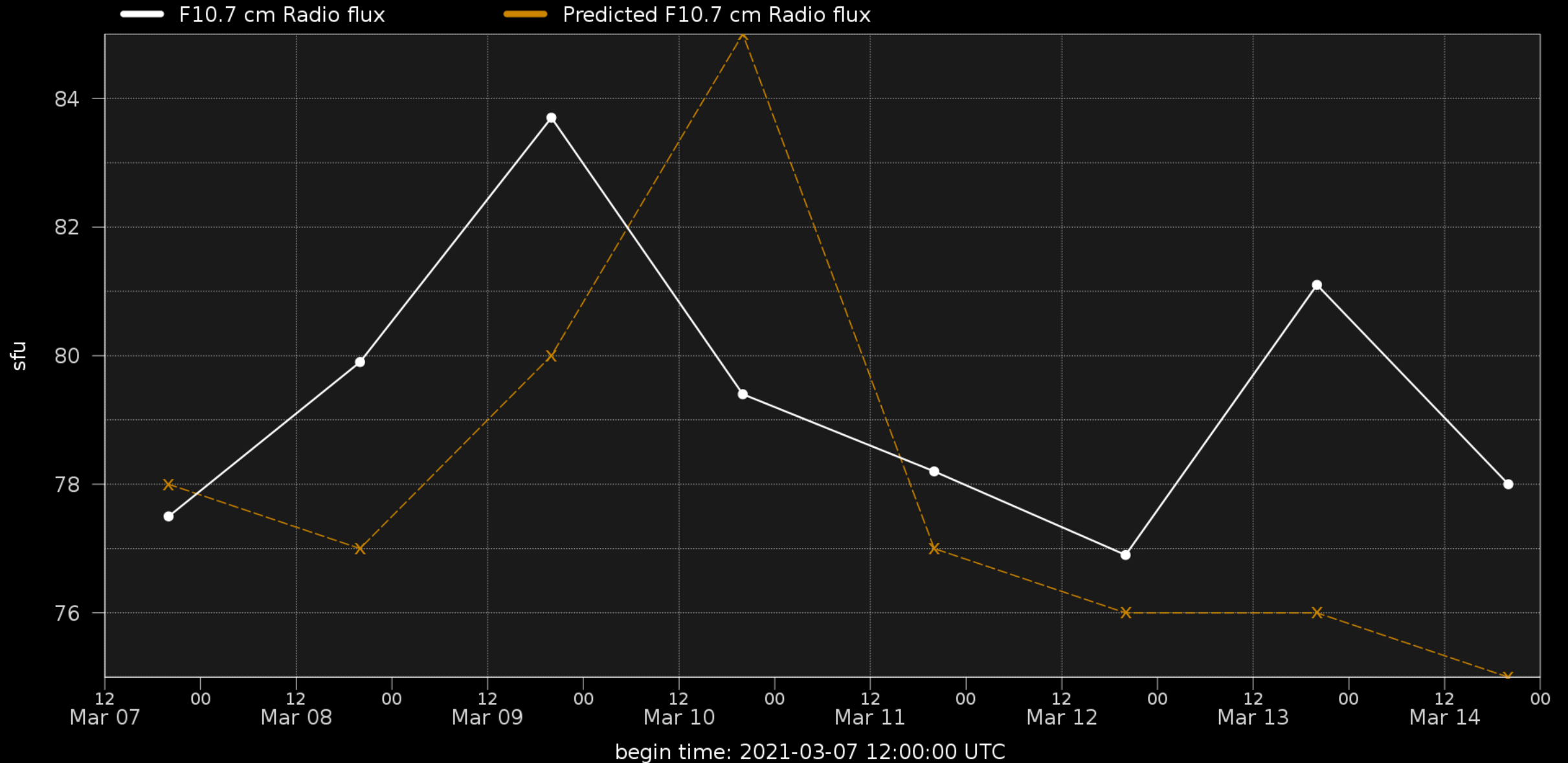
# Flaring activity



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

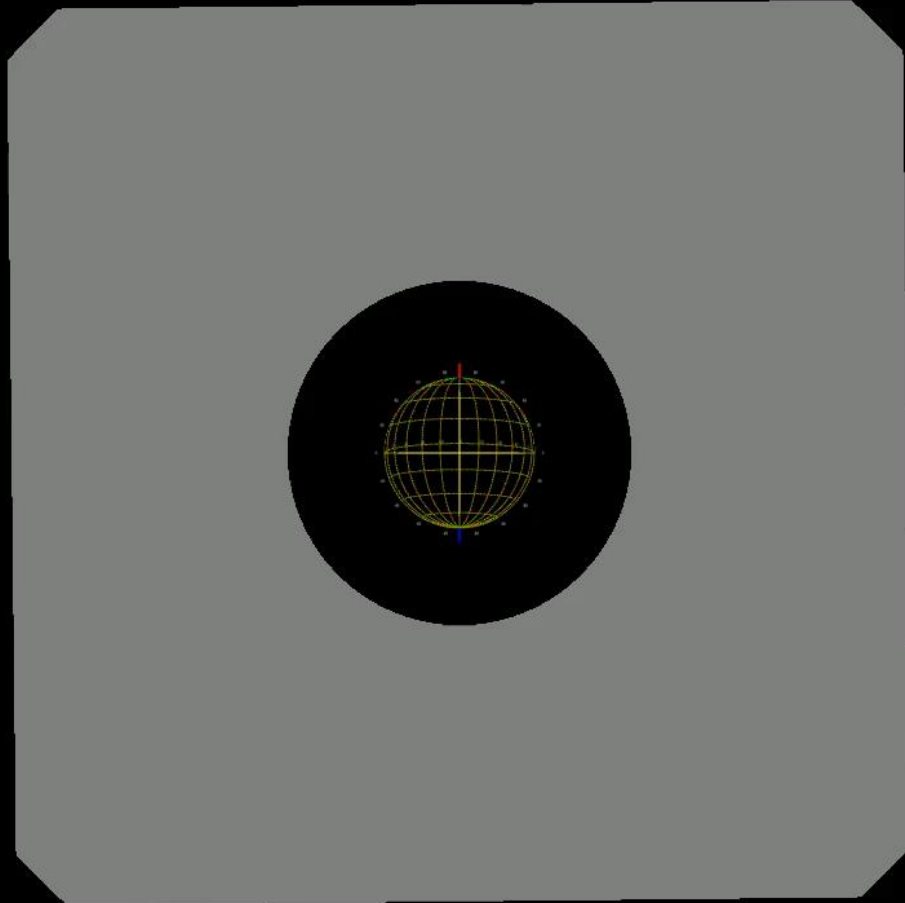
Issue date	2021-03-07	2021-03-08	2021-03-09	2021-03-10	2021-03-11	2021-03-12	2021-03-13	2021-03-14
Probability (%)	20 01 01	05 01 01	07 01 01	40 01 01	10 01 01	02 01 01	05 01 01	10 01 01
Observed (#)	00 00 00	00 00 00	01 00 00	00 00 00	00 00 00	00 00 00	00 00 00	00 00 00

# Solar F10.7cm radio flux





# Coronal Mass Ejections



2021-03-07T15:24:07

S

W

N

E

03:36 03/  
18:00 03/  
04:12 03/  
19:48 03/  
17:00 03/  
14:00 03/  
08:24 03/  
05:24 03/  
02:24 03/  
23:12 03/  
19:36 03/  
17:00 03/  
14:00 03/  
10:36 03/  
08:00 03/  
05:12 03/  
02:12 03/  
22:12 03/  
19:00 03/  
16:18 03/  
13:30 03/  
10:24 03/  
07:24 03/  
04:24 03/  
01:25 03/  
22:12 03/  
19:12 03/  
16:12 03/  
13:25 03/  
10:12 03/  
07:36 03/  
04:48 03/  
01:48 03/  
22:12 03/  
19:12 03/  
15:54 03/  
12:12 03/  
09:48 03/  
06:36 03/  
03:36 03/  
00:00 03/

# Solar Wind and

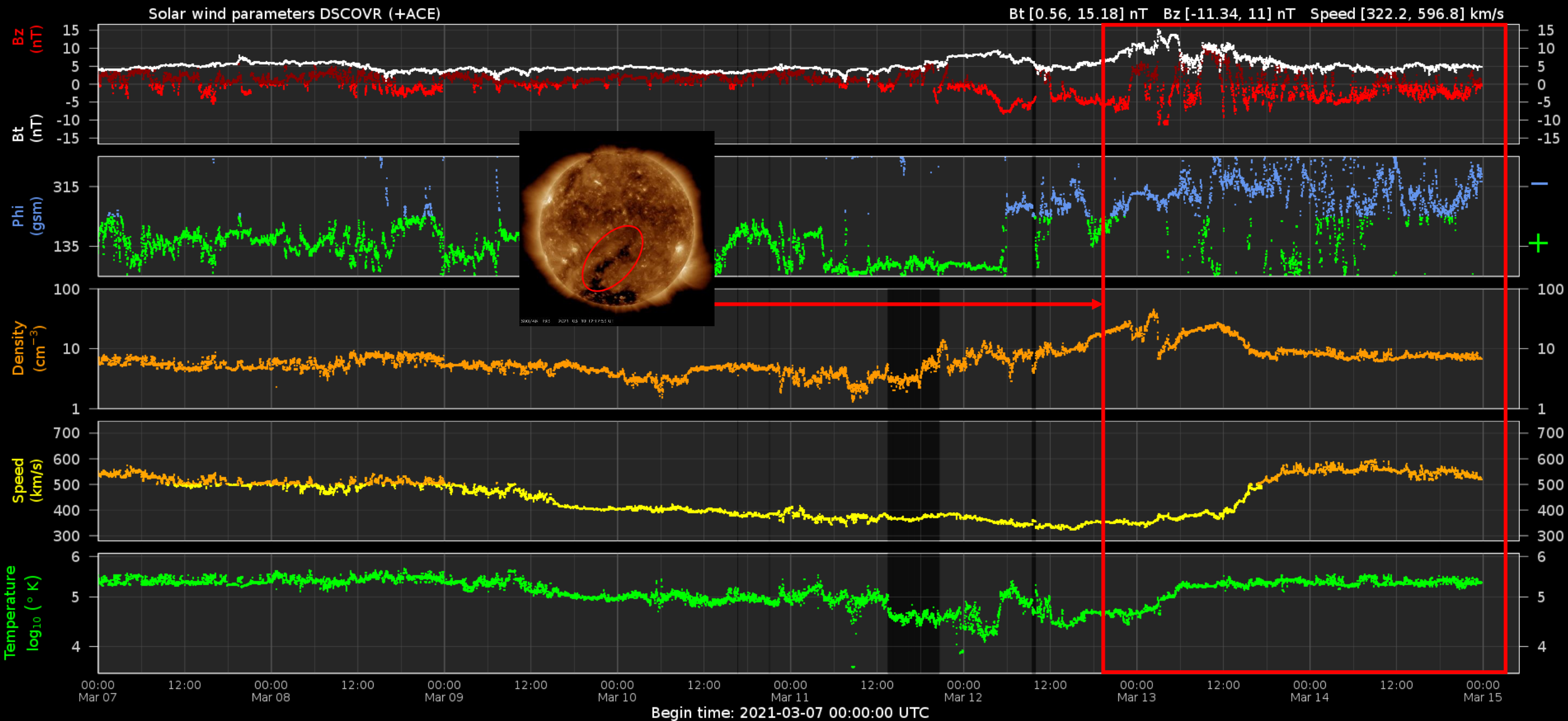
# Geomagnetic Activity



Royal Observatory  
of Belgium

Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Solar wind parameters

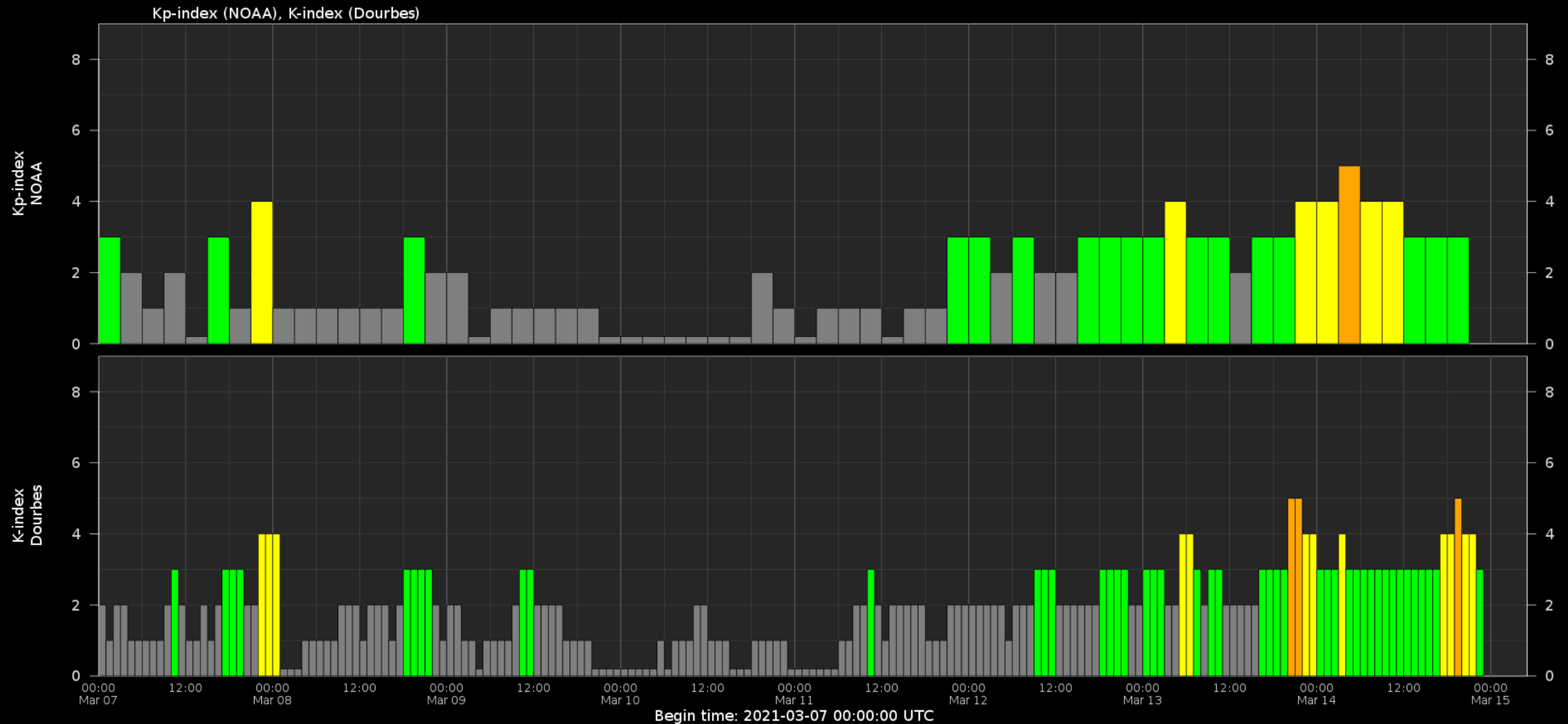




# Solar wind parameters & K-indices



# Geomagnetic activity (K-indexes)





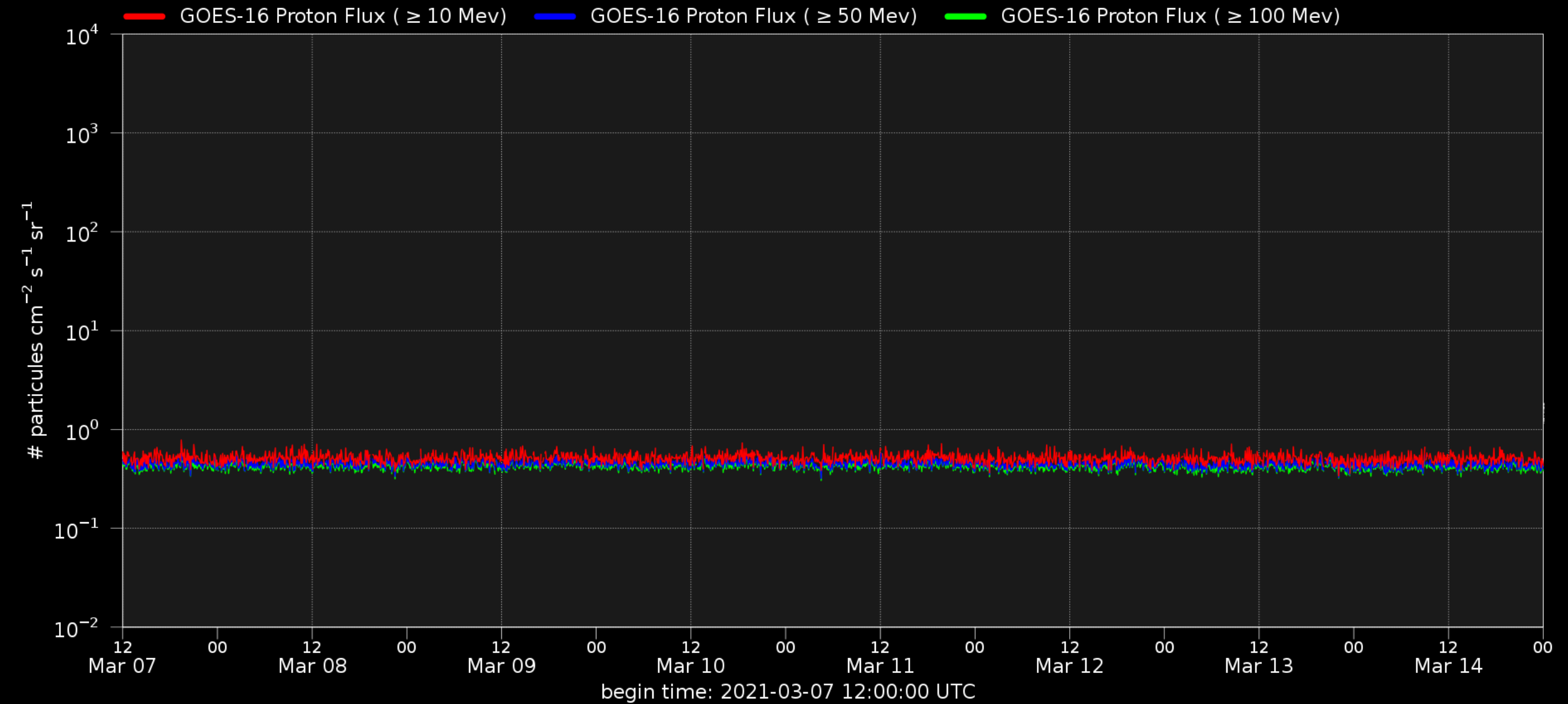
# Energetic Particles



Royal Observatory  
*of* Belgium

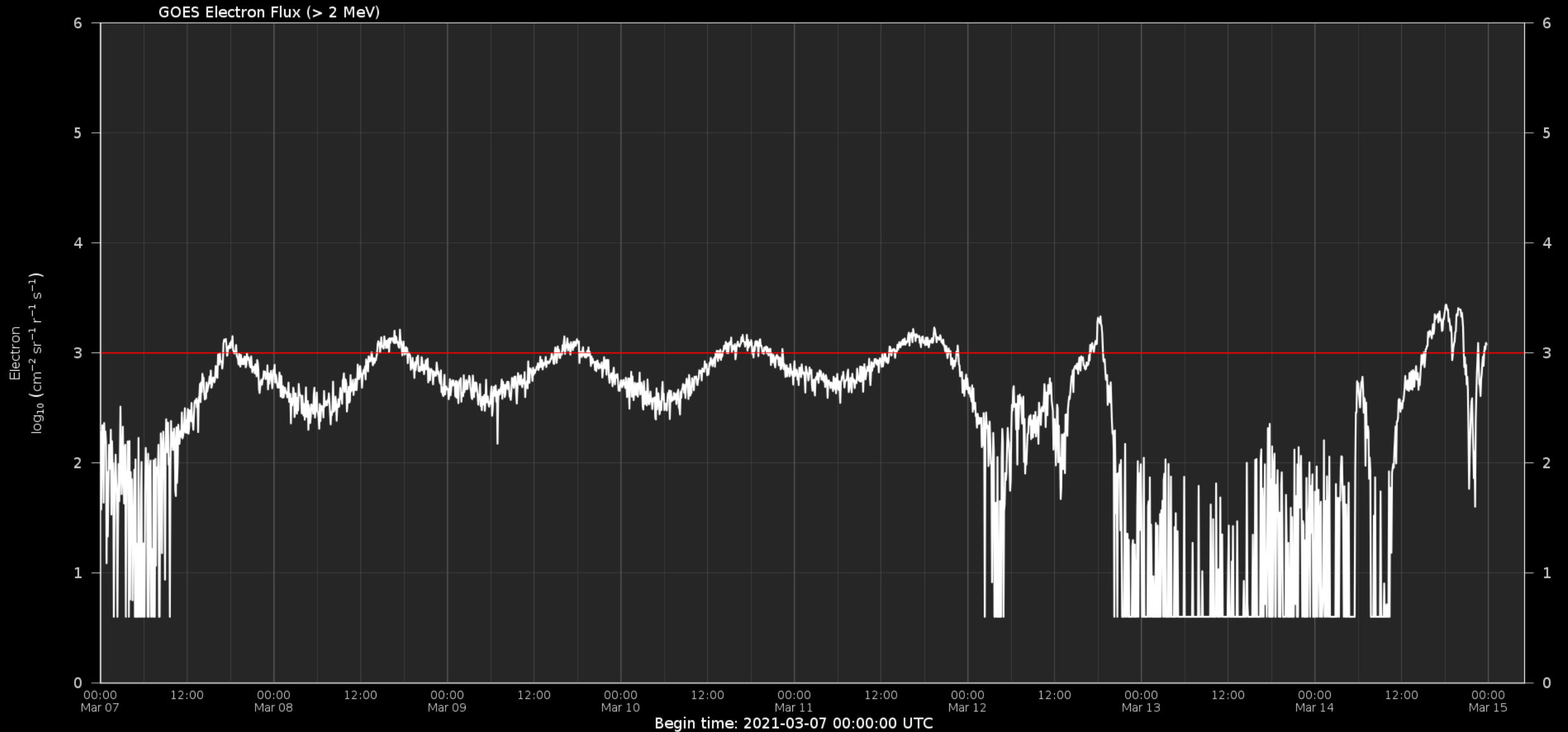
Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Solar proton flux



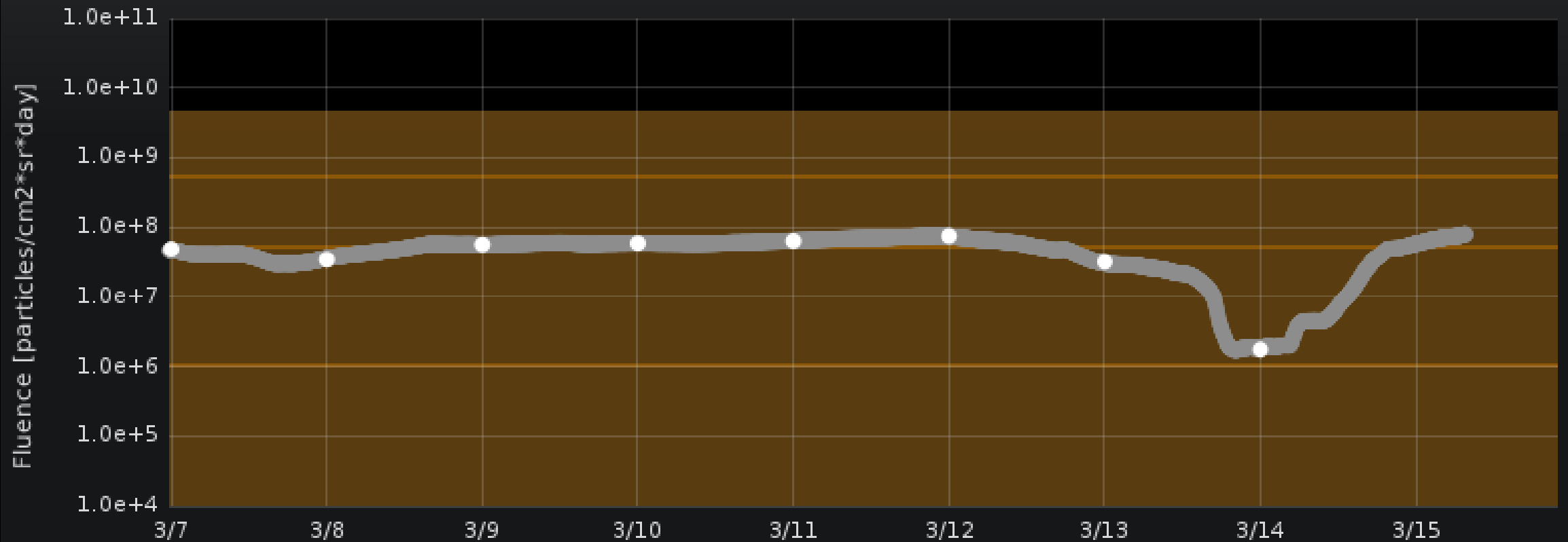


# Electron flux at GEO



# Electron flux at GEO

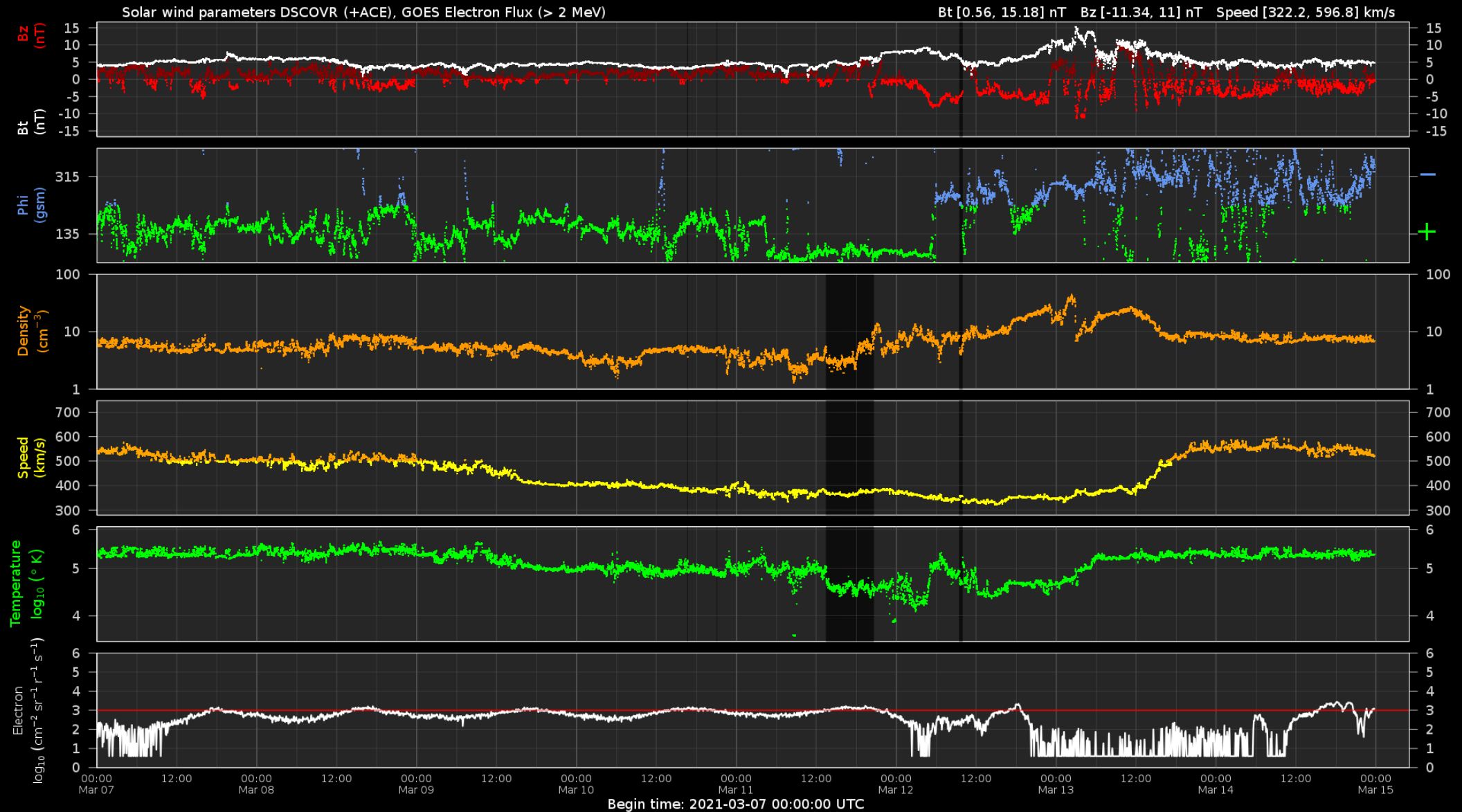
>2MeV GOES electrons - Fluence over the preceding 24-hour window



	min	max	avg	current
— Fluence --- Running window over the preceding 24-hour	1.7e+6	7.9e+7	4.7e+7	7.9e+7
— Fluence --- One value for the preceding day	1.7e+6	2.3e+8	7.6e+7	1.7e+6
— Fluence --- ESTIMATION	7.6e+7	7.6e+7	7.6e+7	7.6e+7



# Electron flux at GEO



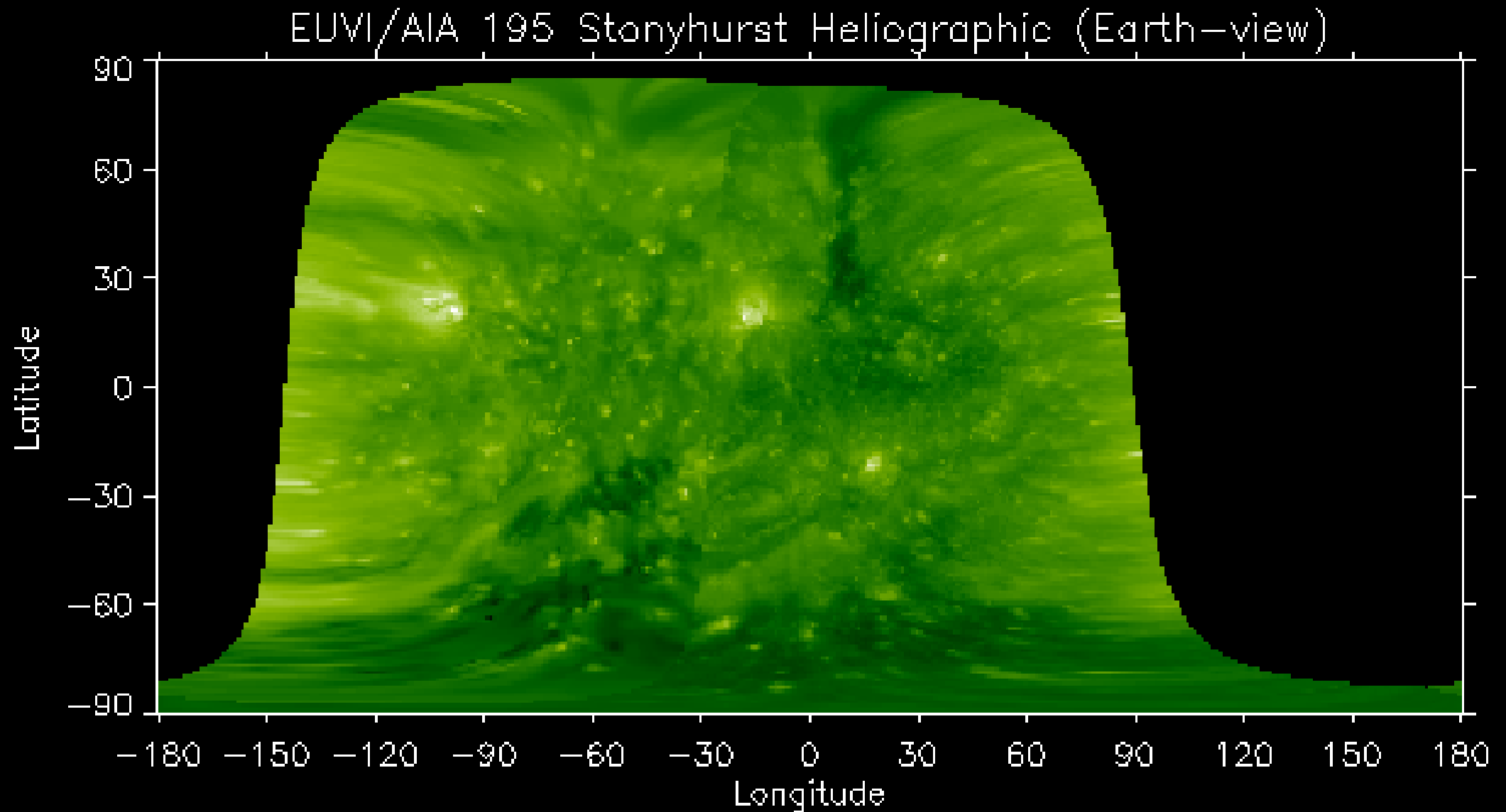
# Outlook



Royal Observatory  
*of* Belgium

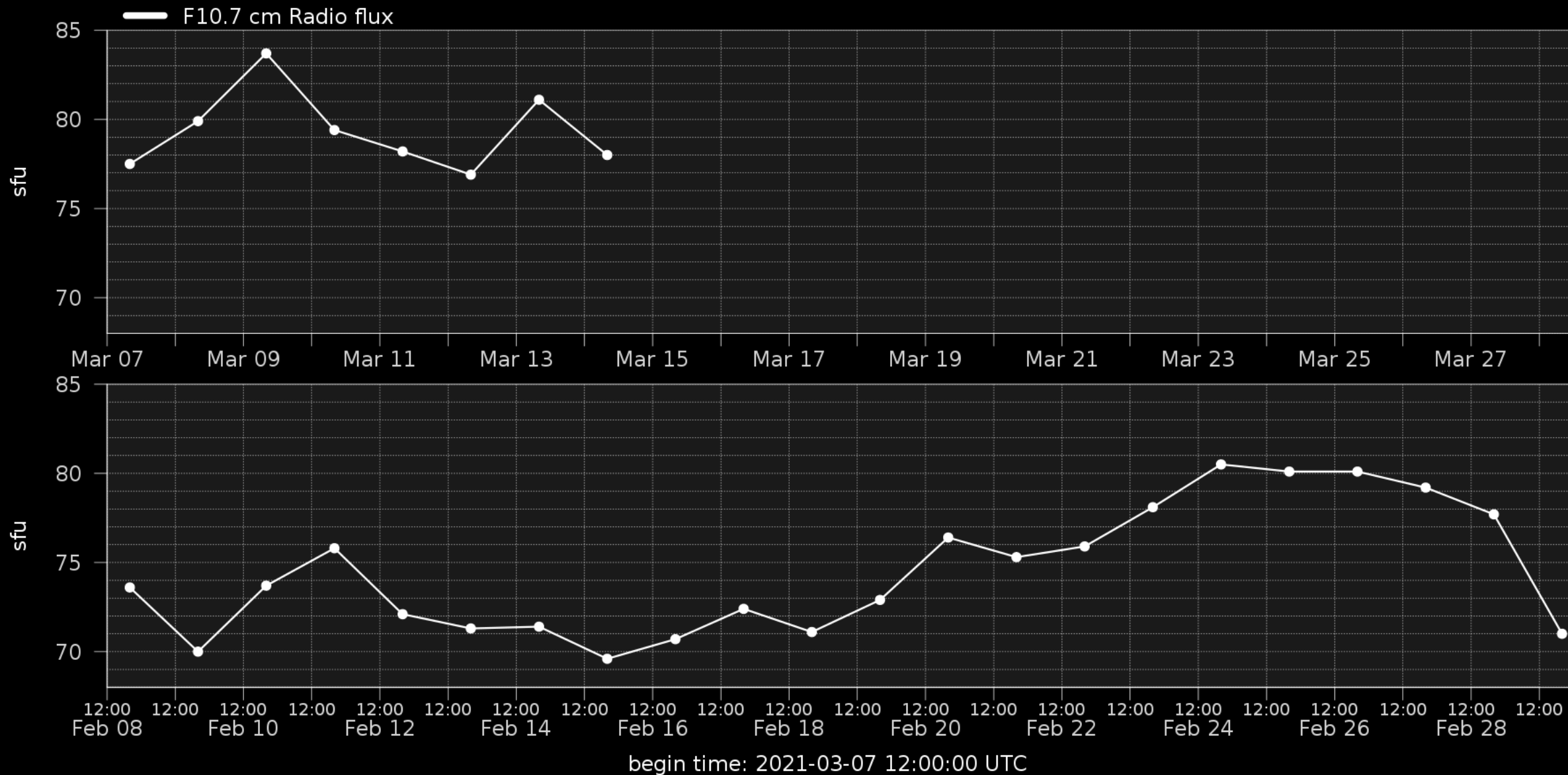
Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Outlook: Solar activity

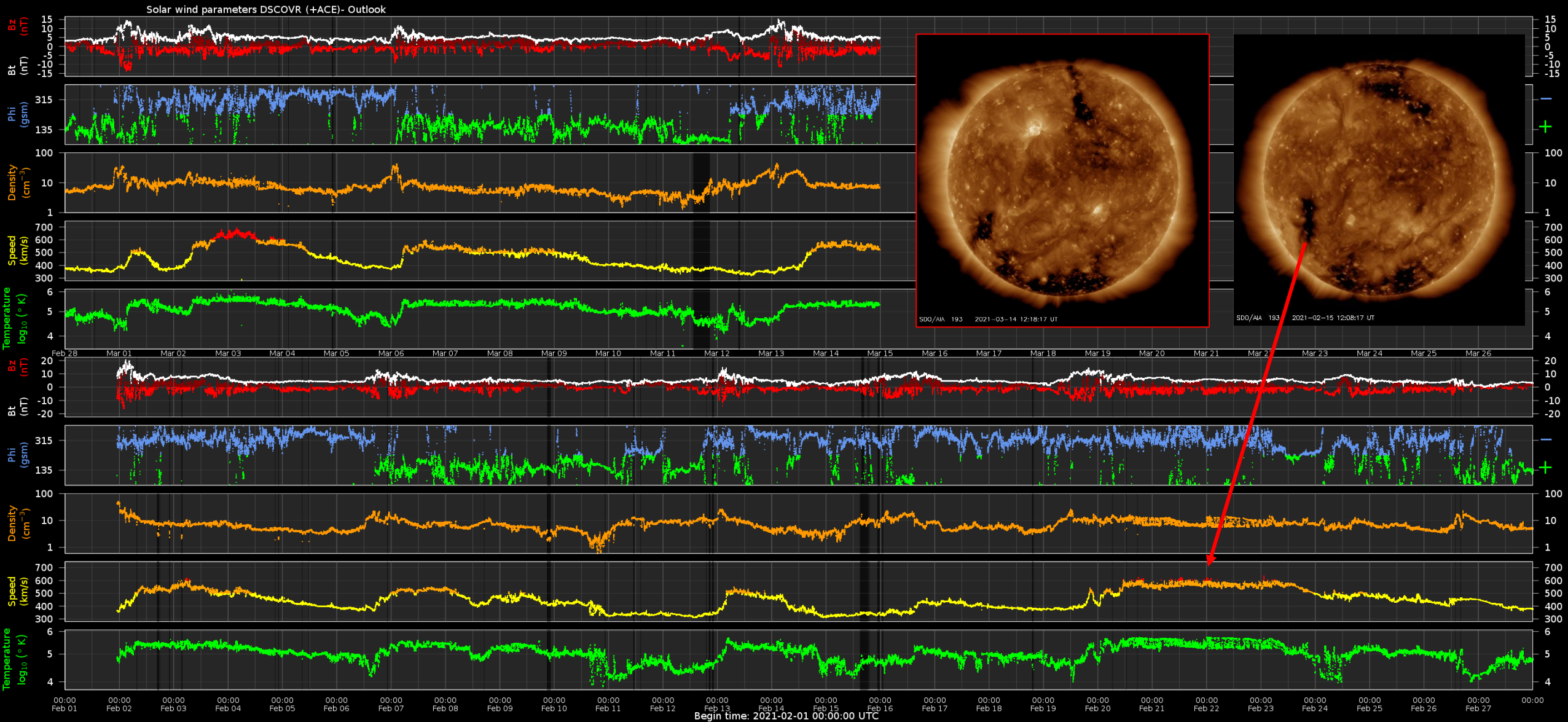




# Outlook: Solar F10.7cm radio flux



# Outlook: Solar wind parameters

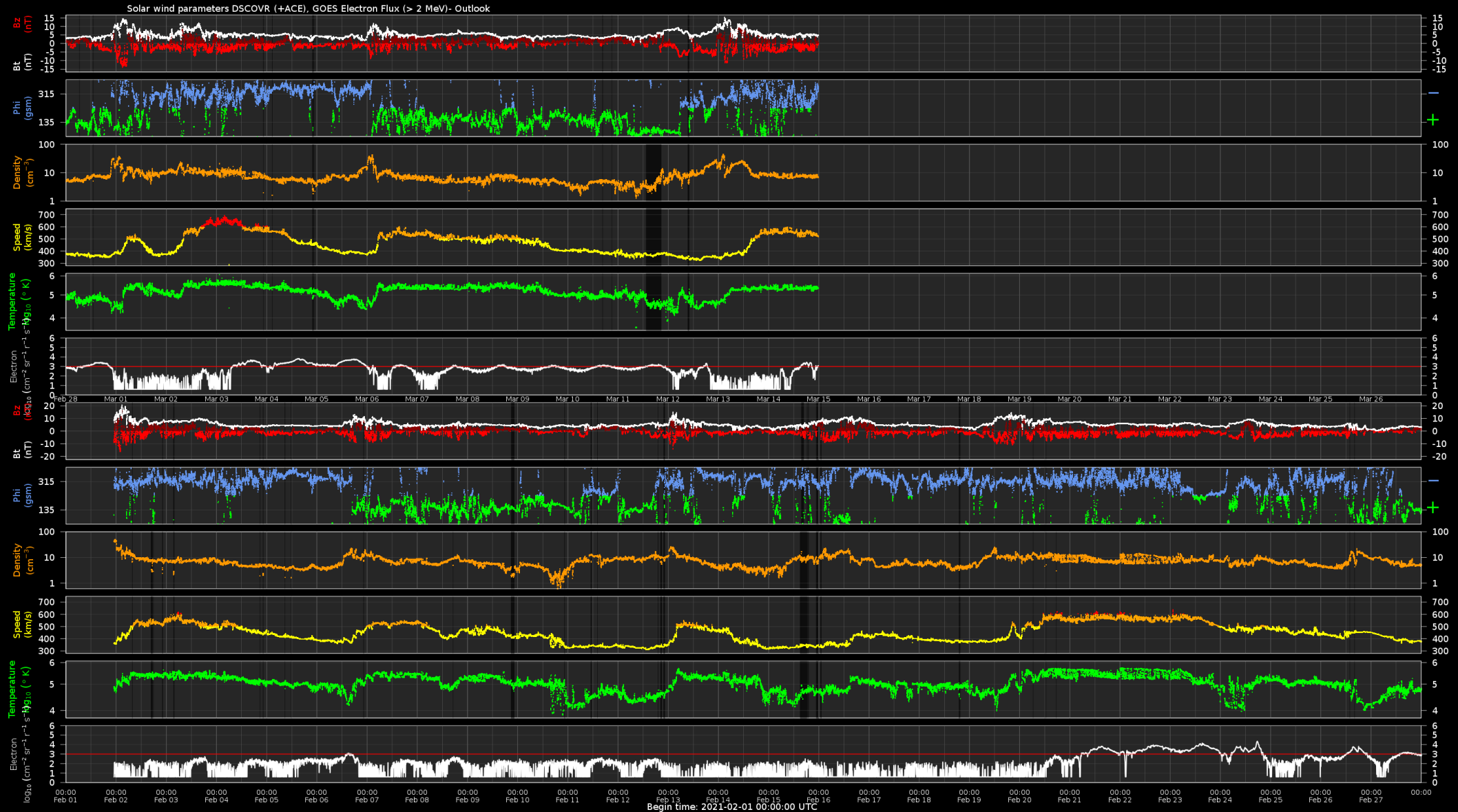


# Outlook: Geomagnetic activity





# Outlook: Geomagnetic activity



# SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at [www.sidc.be](http://www.sidc.be)



Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)