

# SIDC Space Weather Briefing

02 July 2018 - 08 July 2018

Matthew West  
& the SIDC forecaster team



Royal Observatory  
of Belgium

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

# Summary Report

## Solar activity

Active regions	1 recurrent AR on East limb at end of week (unclassified)
Flaring	# B-class flare: 6 # C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filaments	1 back-sided filament eruption 05-Jul-2018; 1 SMALL front sided filament eruption 05-Jul-2018
CMEs	None
Proton Events	Background levels

## Solar wind and geomagnetic conditions

SW Conditions	$V = 295.9 - 523.6$ km/s, $B_t = 2 - 12.61$ nT, $B_z = [-8.97, +8]$ nT
ICME	None
K-indices	max K-index (Dourbes): 5 max Kp-index (NOAA): 5
Coronal Holes	Patchy low latitude

All Quiet Alert: Start: 2018 Jul 02 13:16 UTC; End: 2018 Jul 05 14:34 UTC; Start: 2018 Jul 06 11:29 UTC

# Solar Activity

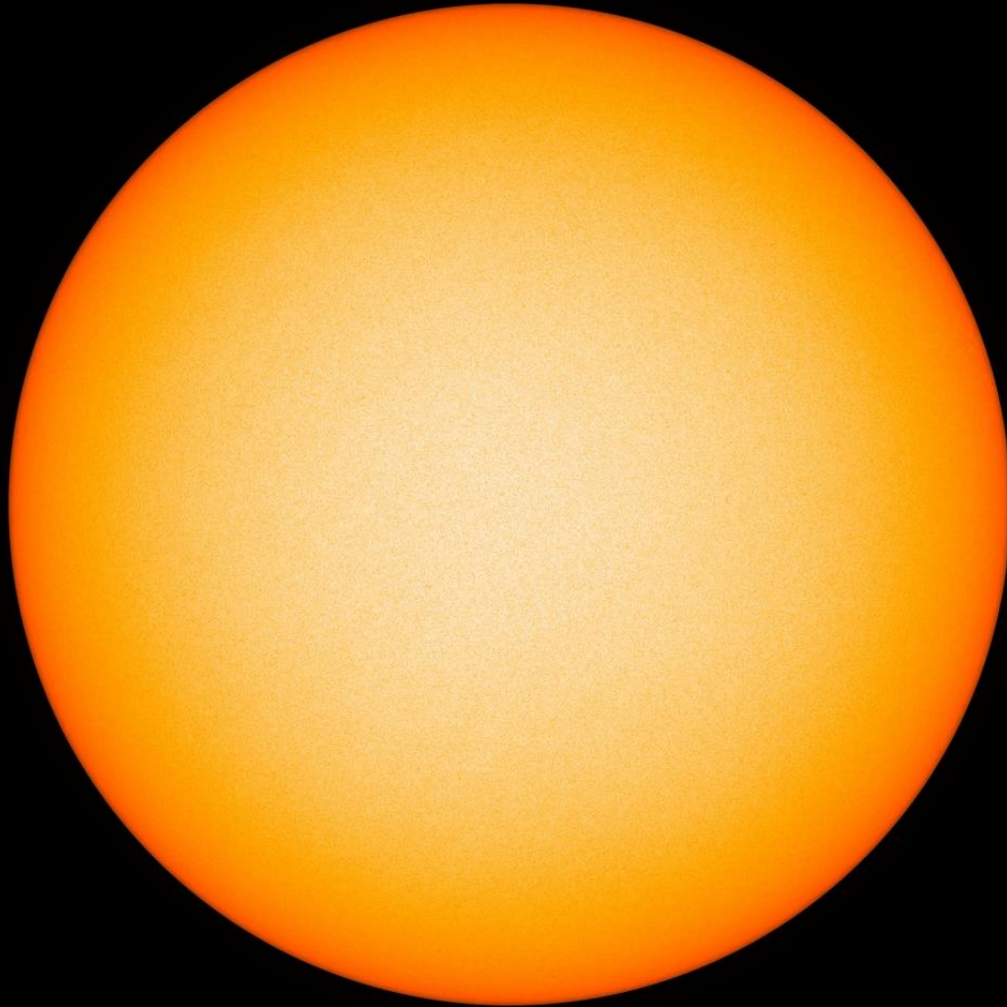


Royal Observatory  
*of* Belgium

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

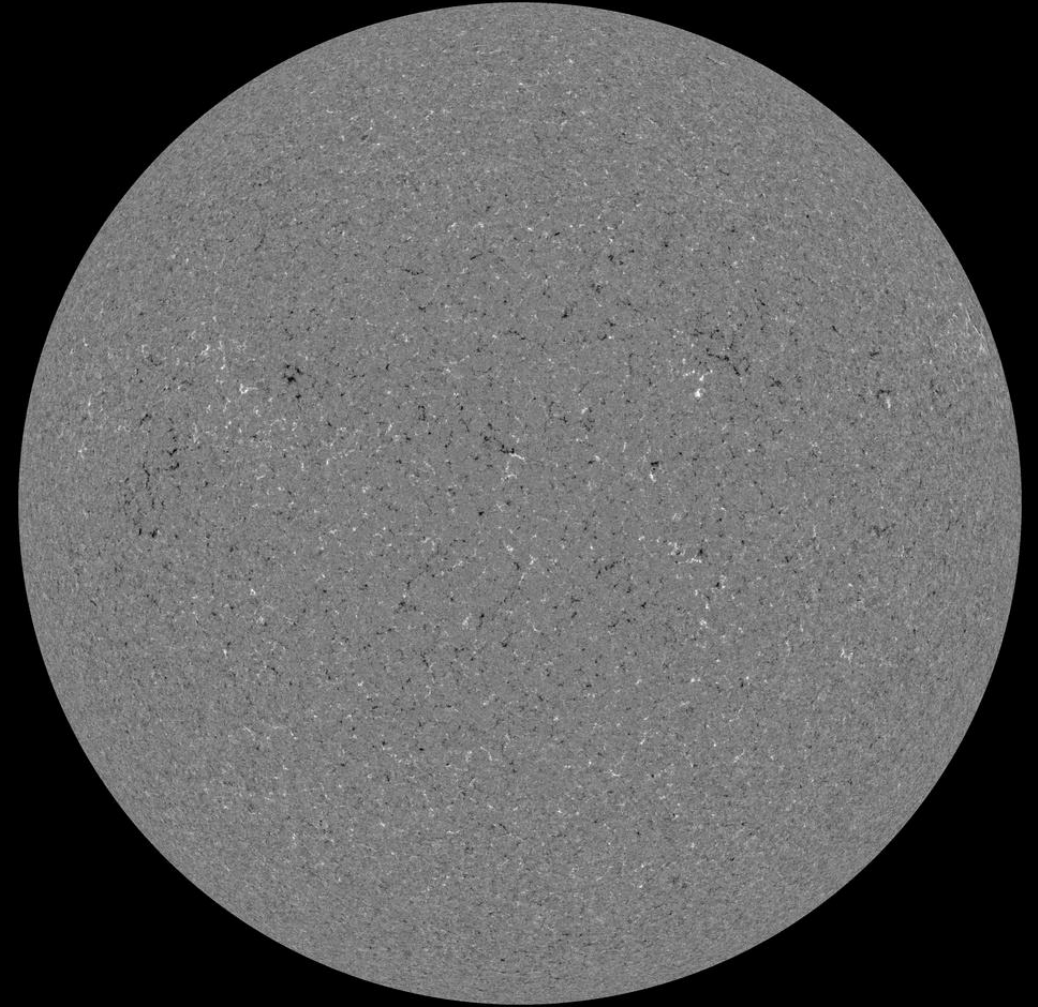
# Solar Active Region

SDO/HMI White Light 2018-07-02



SDO/HMI Quick-Look Continuum: 20180702\_130000

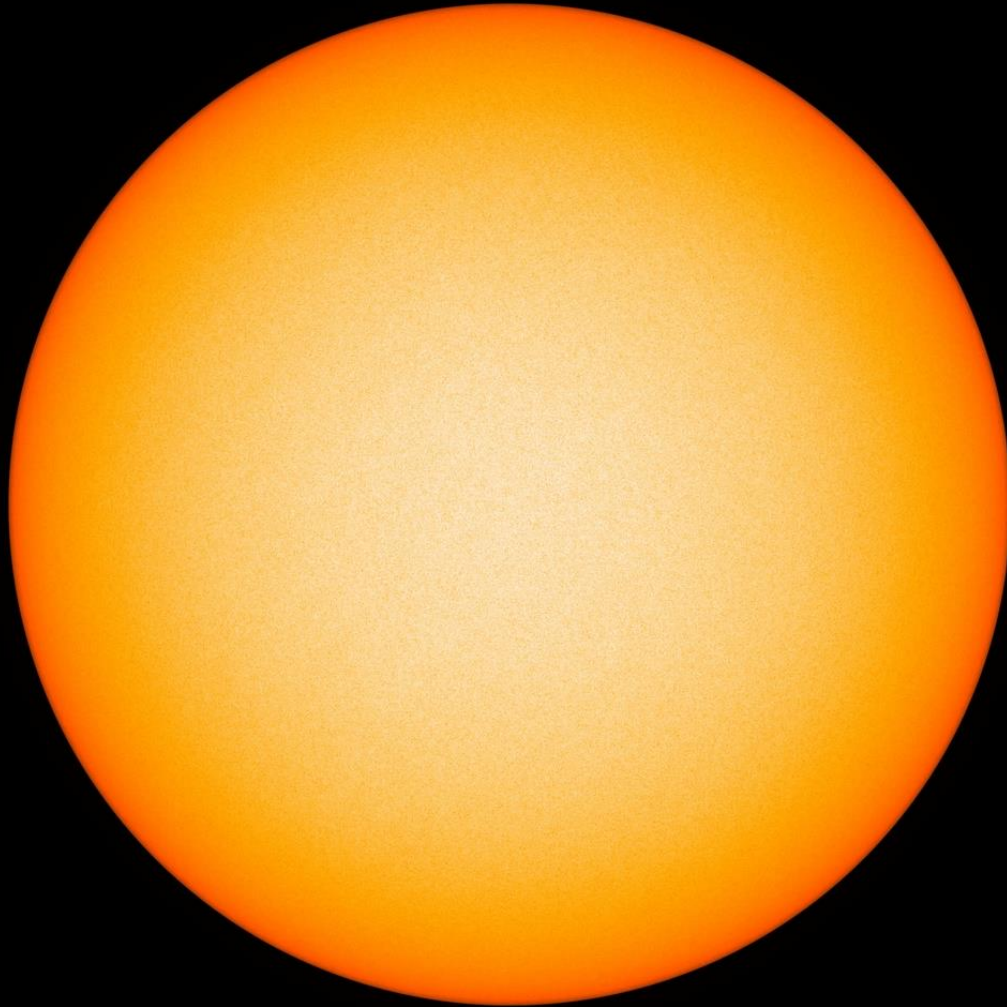
SDO/HMI Magnetogram 2018-07-02



SDO/HMI Quick-Look Magnetogram: 20180702\_131500

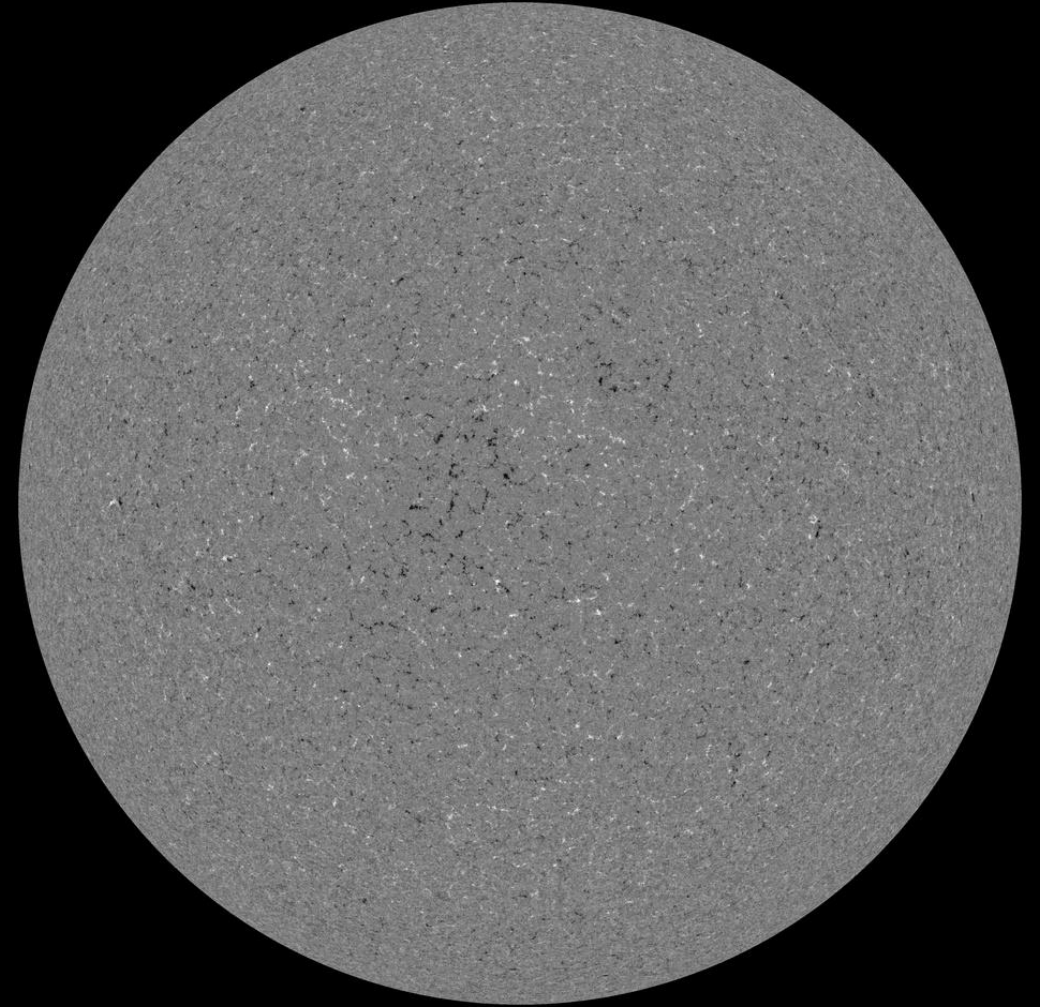
# Solar Active Region

SDO/HMI White Light 2018-07-05



SDO/HMI Quick-Look Continuum: 20180705\_130000

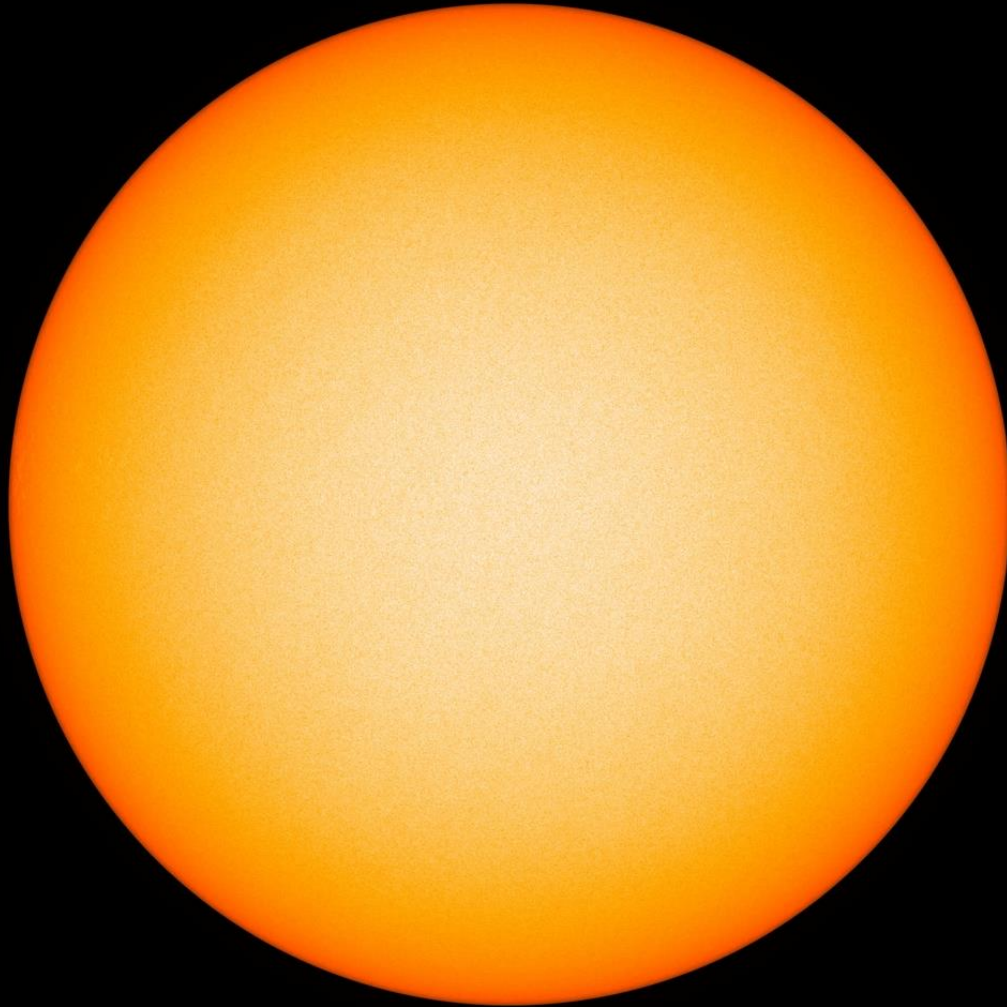
SDO/HMI Magnetogram 2018-07-05



SDO/HMI Quick-Look Magnetogram: 20180705\_131500

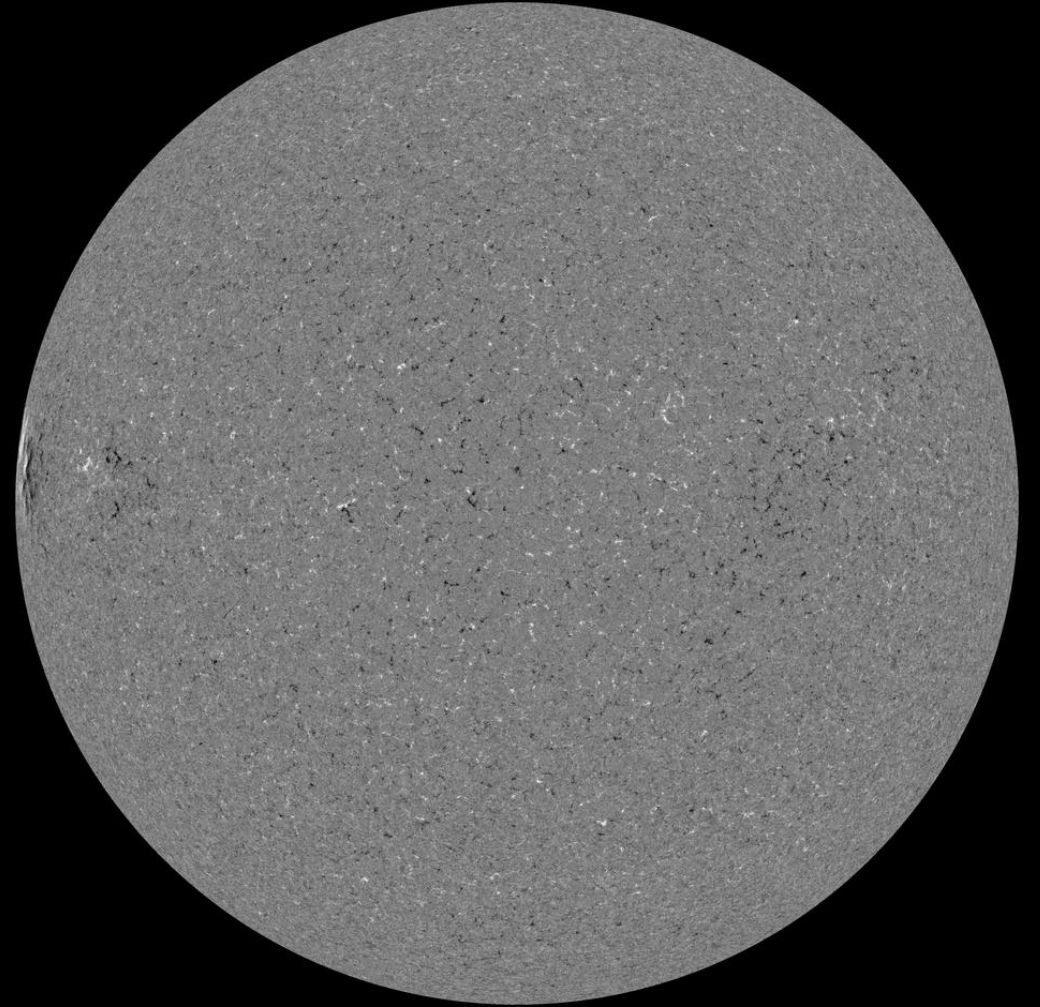
# Solar Active Region

SDO/HMI White Light 2018-07-08



SDO/HMI Quick-Look Continuum: 20180708\_130000

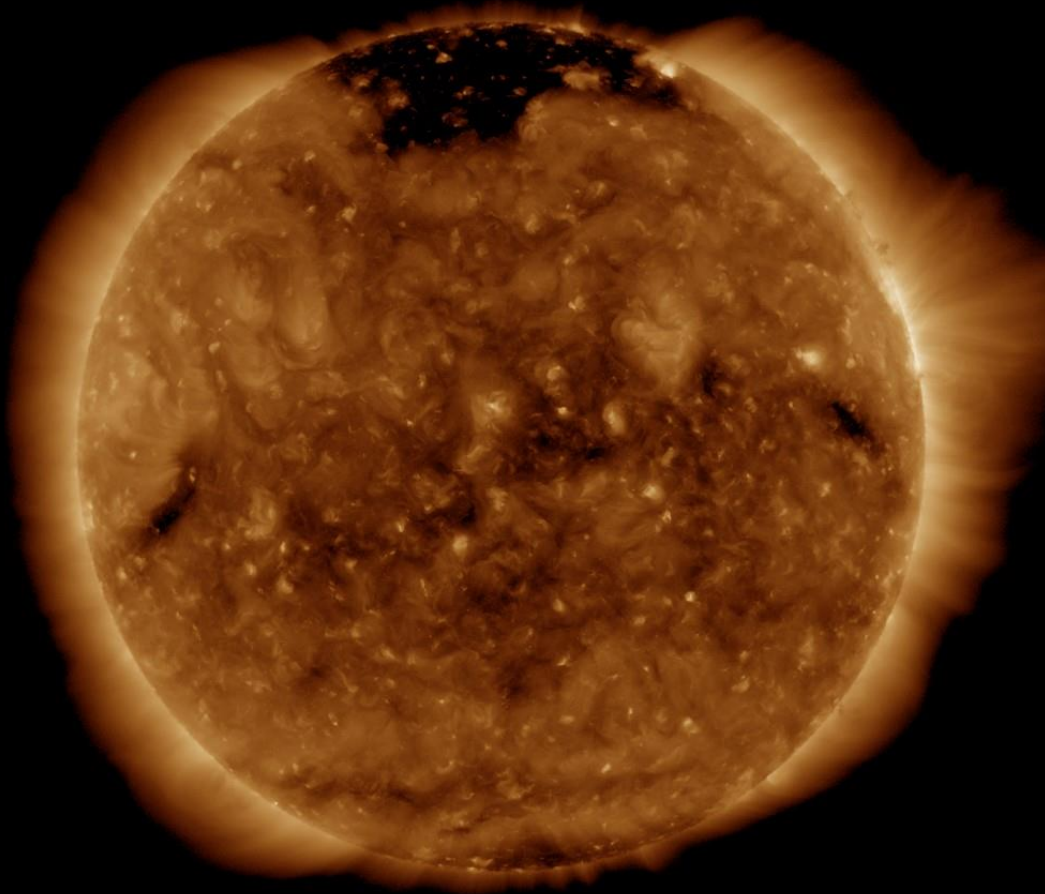
SDO/HMI Magnetogram 2018-07-08



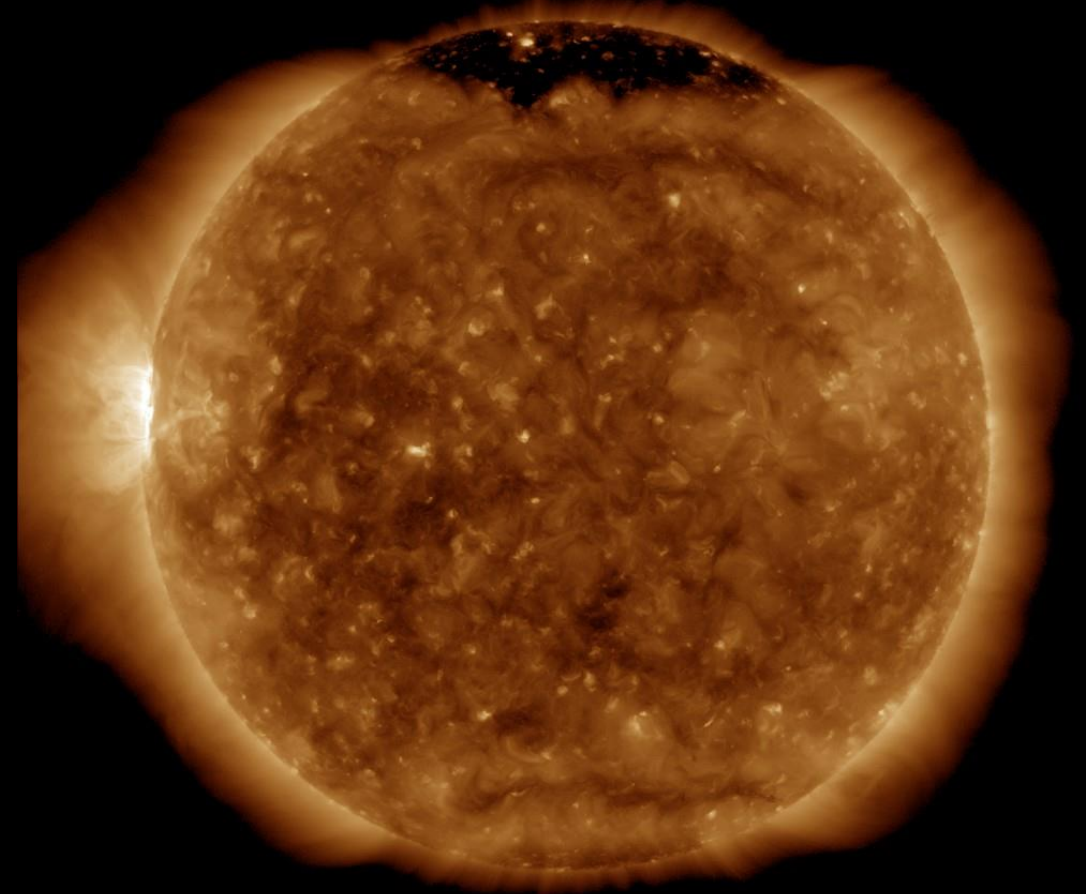
SDO/HMI Quick-Look Magnetogram: 20180708\_131500

# Solar Active Region

SDO/AIA 1.93nm 2018-07-02



SDO/AIA 1.93nm 2018-07-08

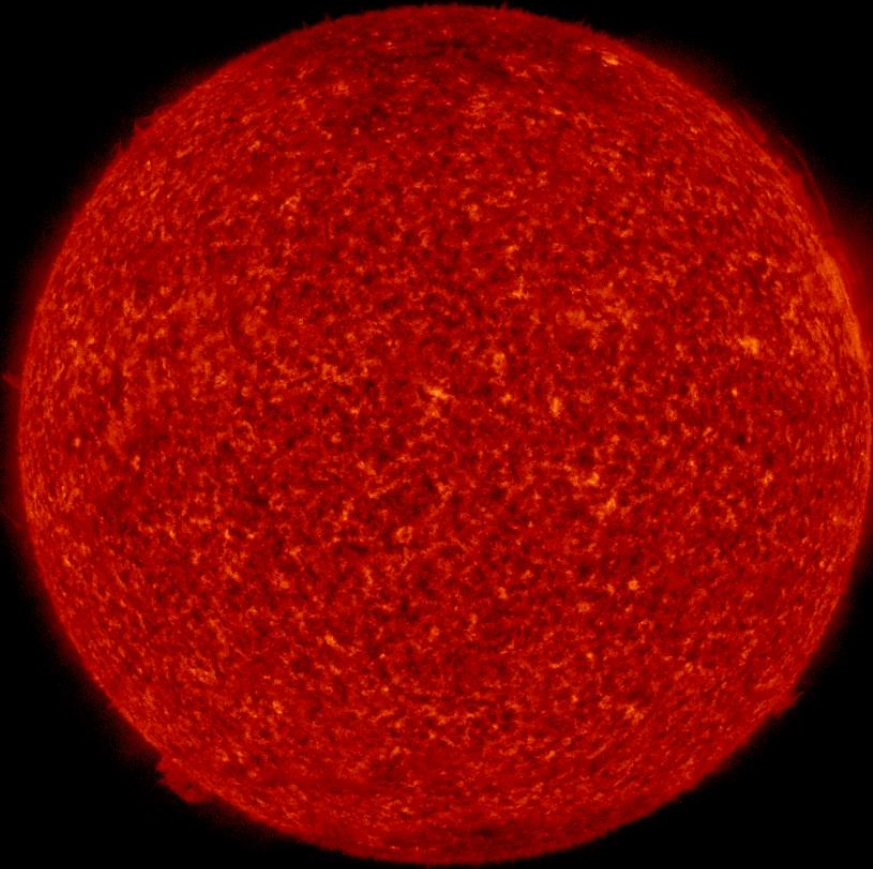


SDO/AIA 193 2018-07-02 12:41:29 UT

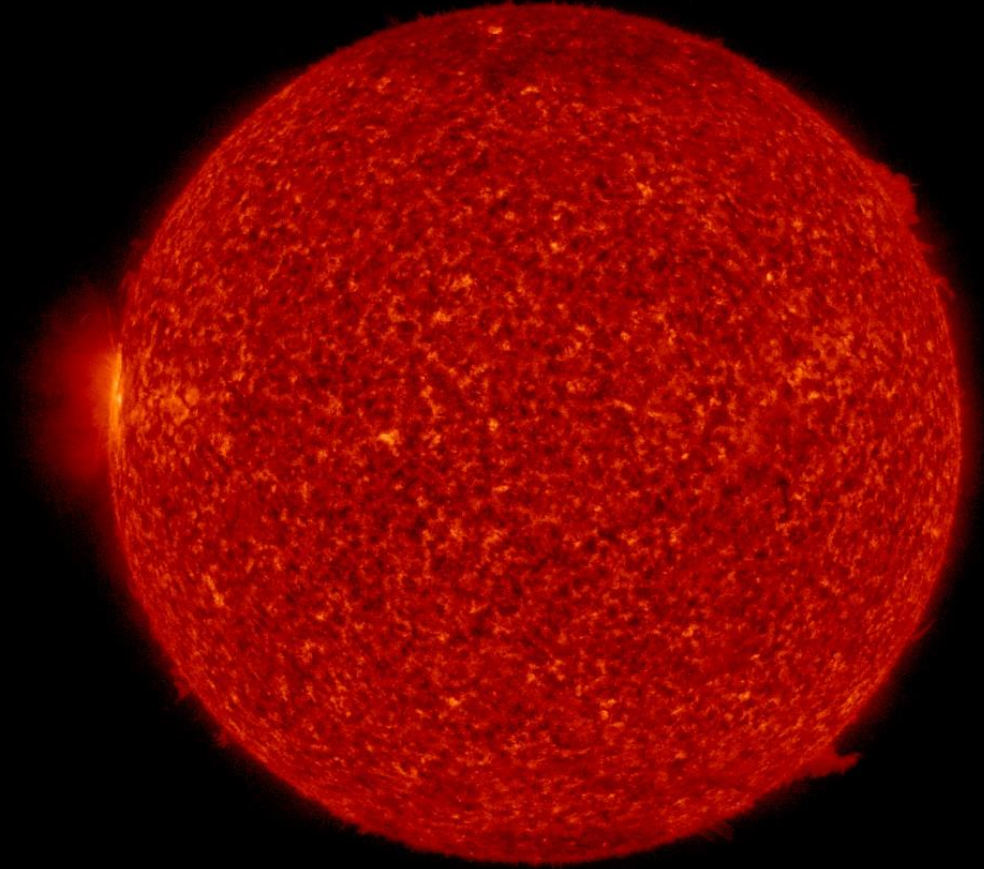
SDO/AIA 193 2018-07-08 12:55:29 UT

# Filament and Prominence

SDO/AIA 3.04nm 2018-07-02



SDO/AIA 3.04nm 2018-07-08



SDO/AIA 304 2018-07-02 12:43:18 UT

SDO/AIA 304 2018-07-08 12:43:42 UT

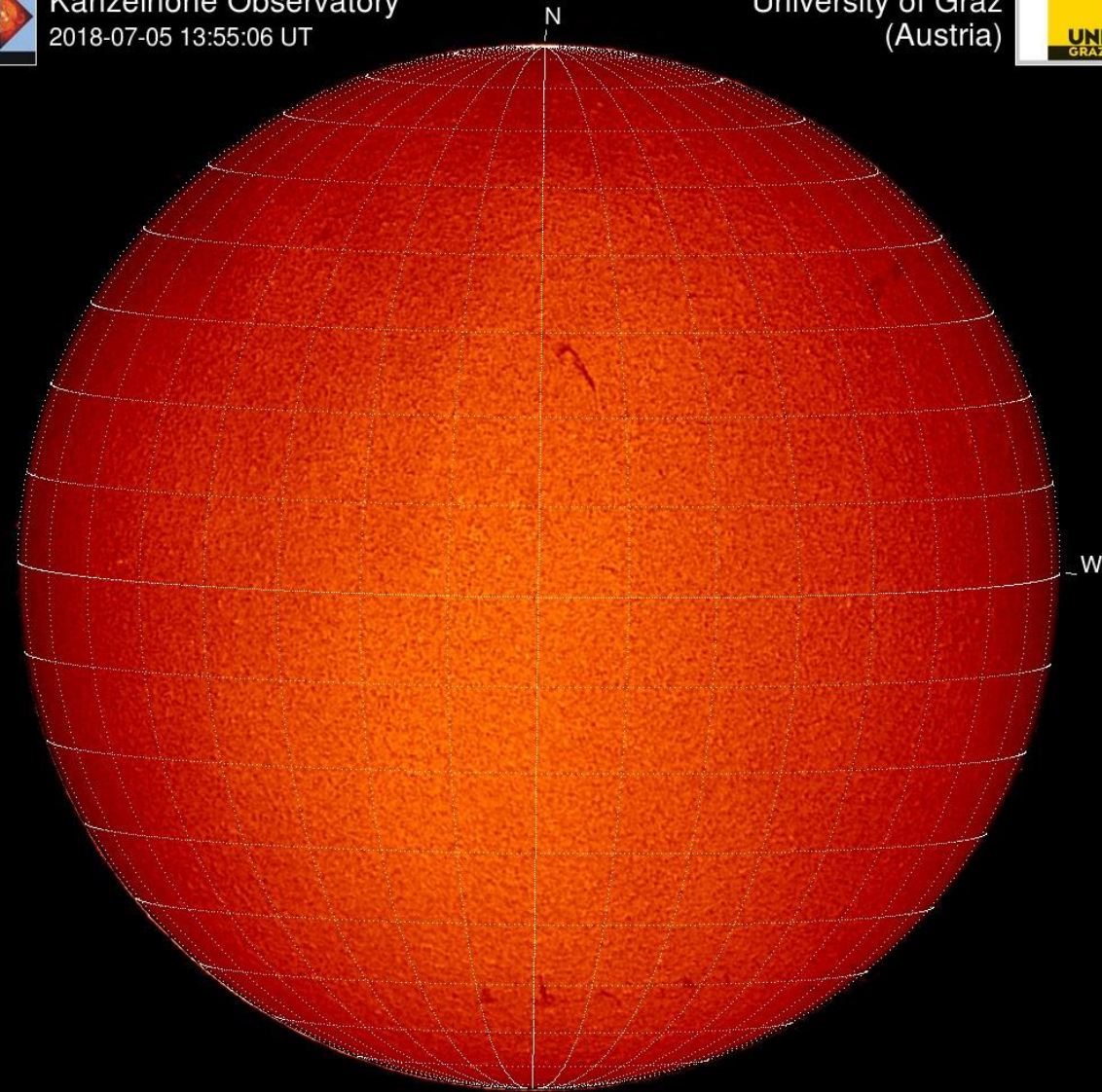


# Filament and Filament Eruption

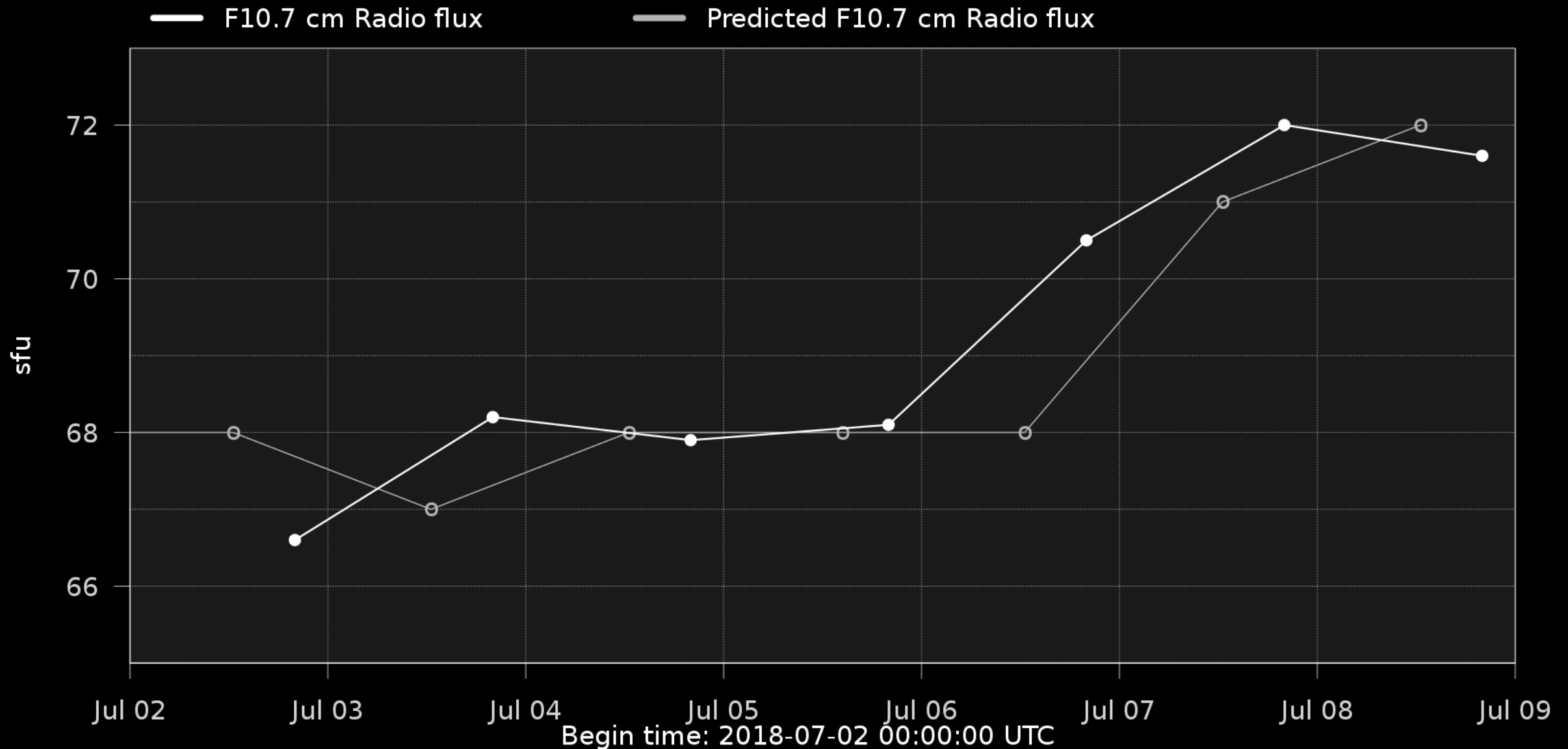


Kanzelhöhe Observatory  
2018-07-05 13:55:06 UT

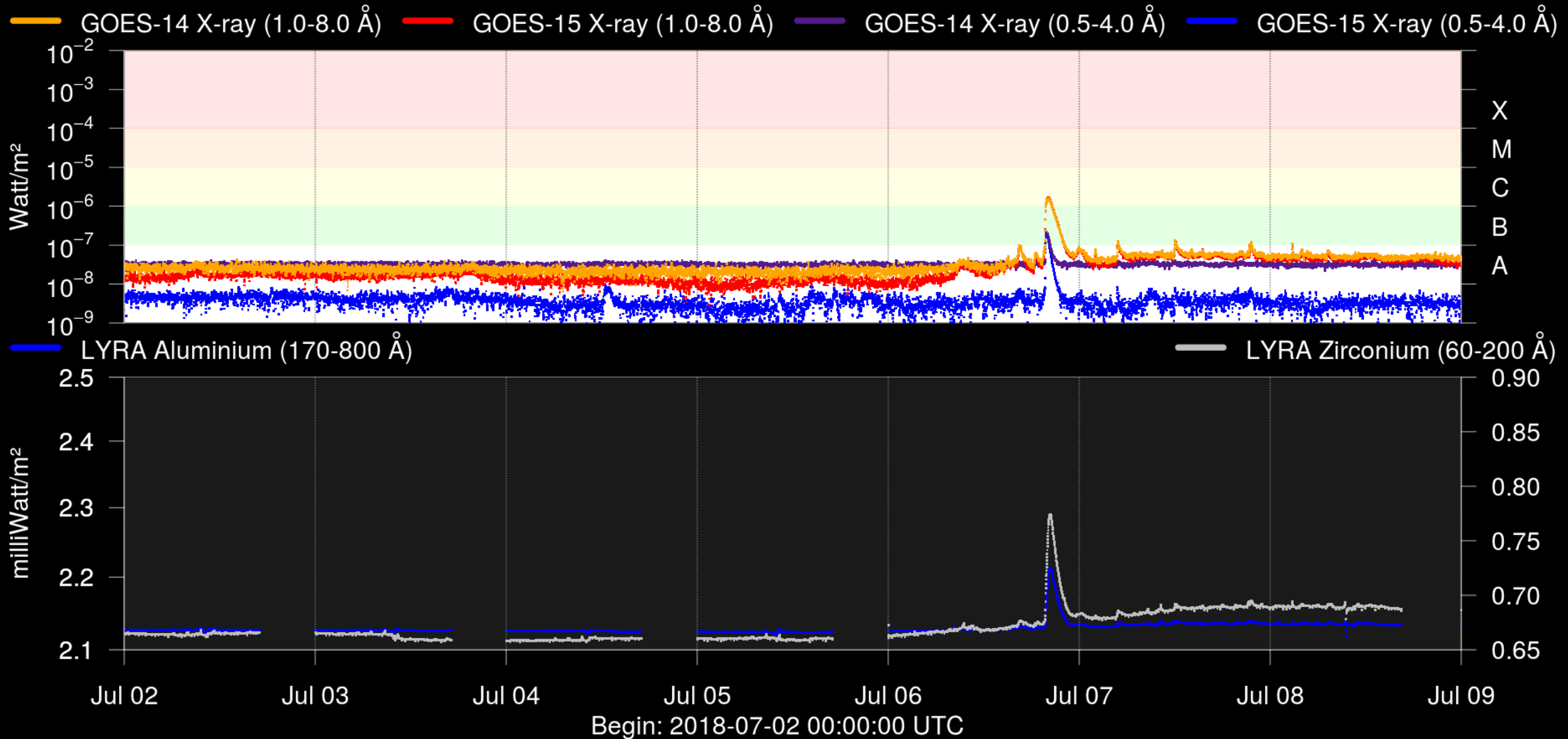
University of Graz  
(Austria)



# Solar F10.7cm Radio Flux

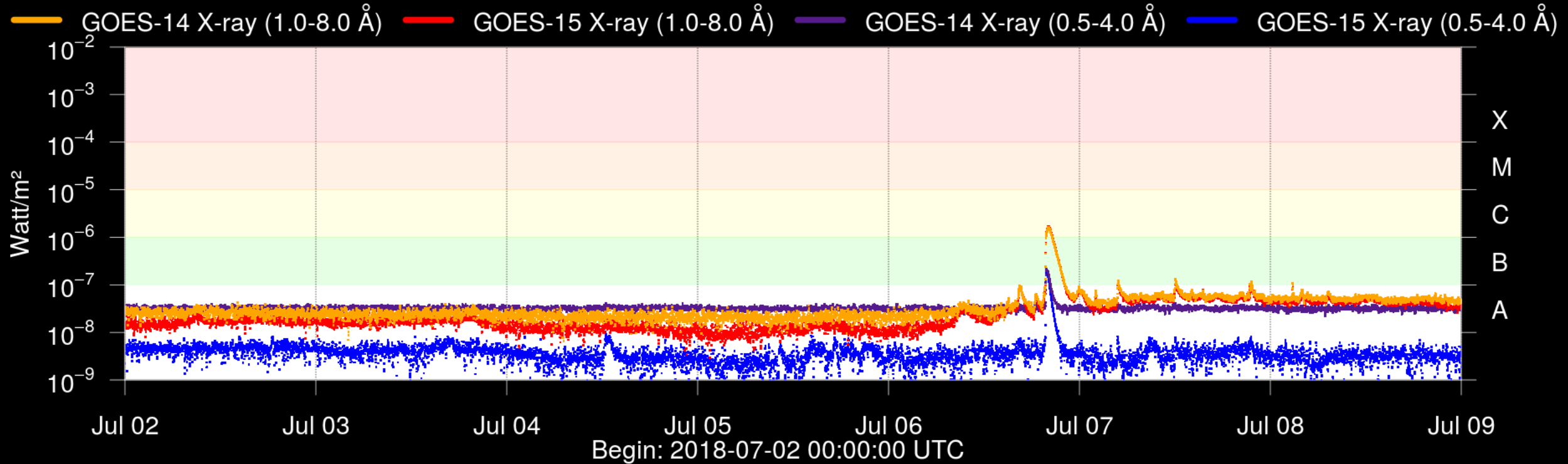


# Flaring activity



# Solar X-Ray Flux

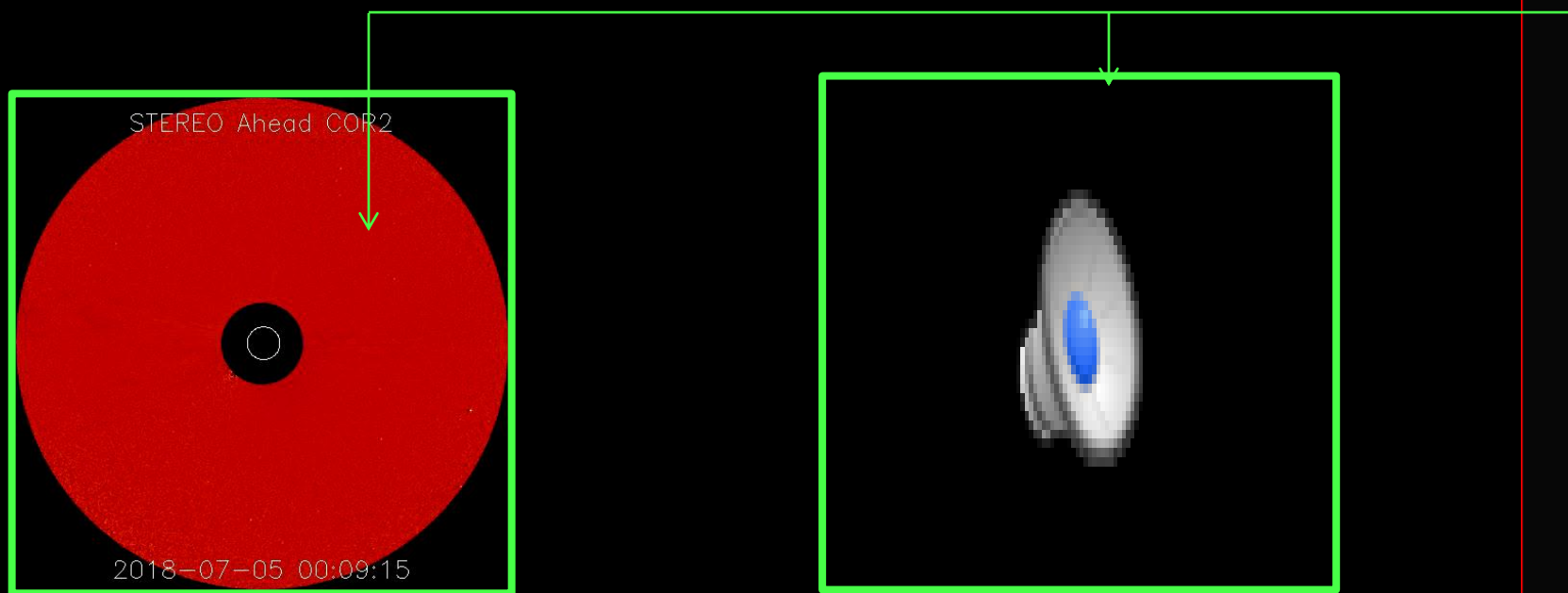
GOES X-ray flux from 2018-07-02 to 2018-07-08



Probabilities and occurrences of C/M/X-flares over the next 24h (from 12:30 to 12:30 next day)

Issue Time	2018-07-02	2018-07-03	2018-07-04	2018-07-05	2018-07-06	2018-07-07	2018-07-08
Predicted (%)	05 / 00 / 00	02 / 05 / 01	01 / 00 / 00	01 / 00 / 00	05 / 00 / 00	30 / 00 / 00	15 / 00 / 00
Observed (#)	00 / 00 / 00	00 / 00 / 00	00 / 00 / 00	00 / 00 / 00	01 / 00 / 00	00 / 00 / 00	00 / 00 / 00

# Coronal Mass Ejection

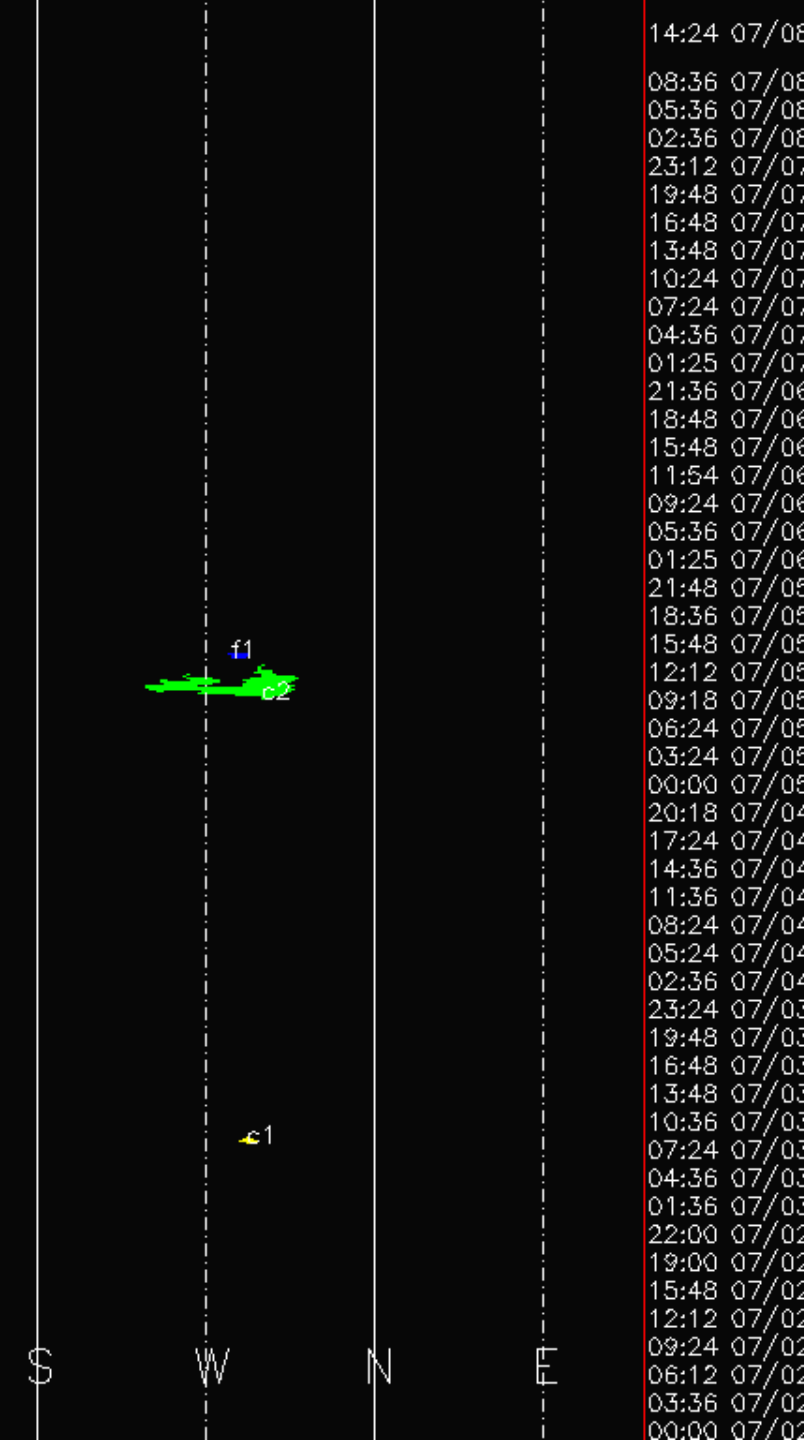
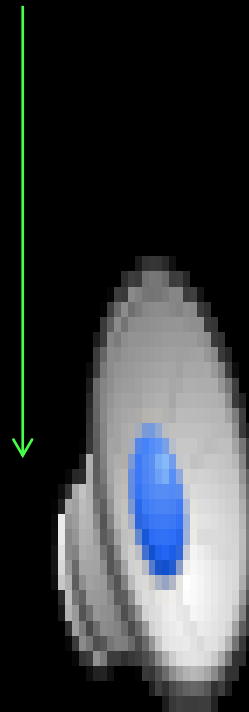


1 Back-sided Filament eruption on 05-Jul-2018 11:12 UT

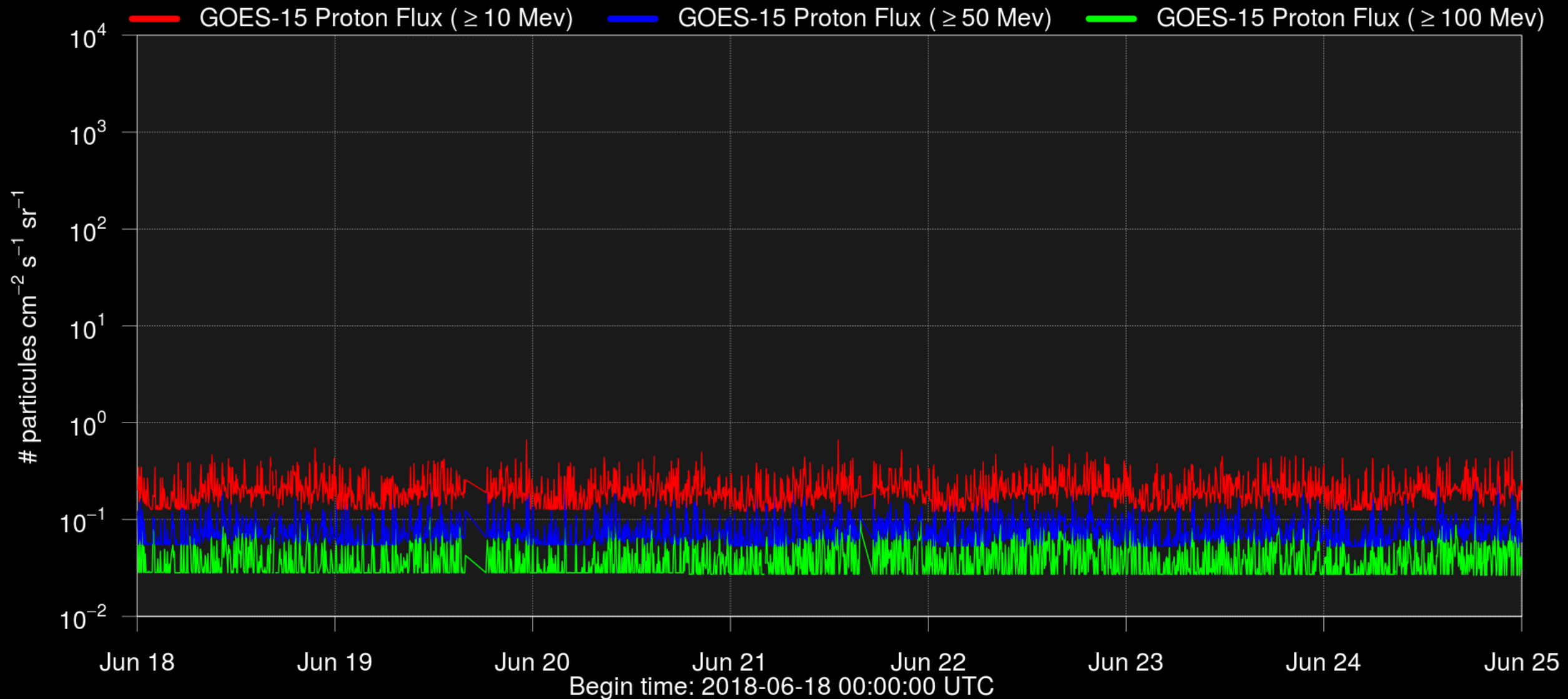


# Coronal Mass Ejection

1 Small front-sided Filament eruption on 05-Jul-2018 at 00:09 UT



# Solar proton flux



# Solar Wind and Geomagnetic Activity

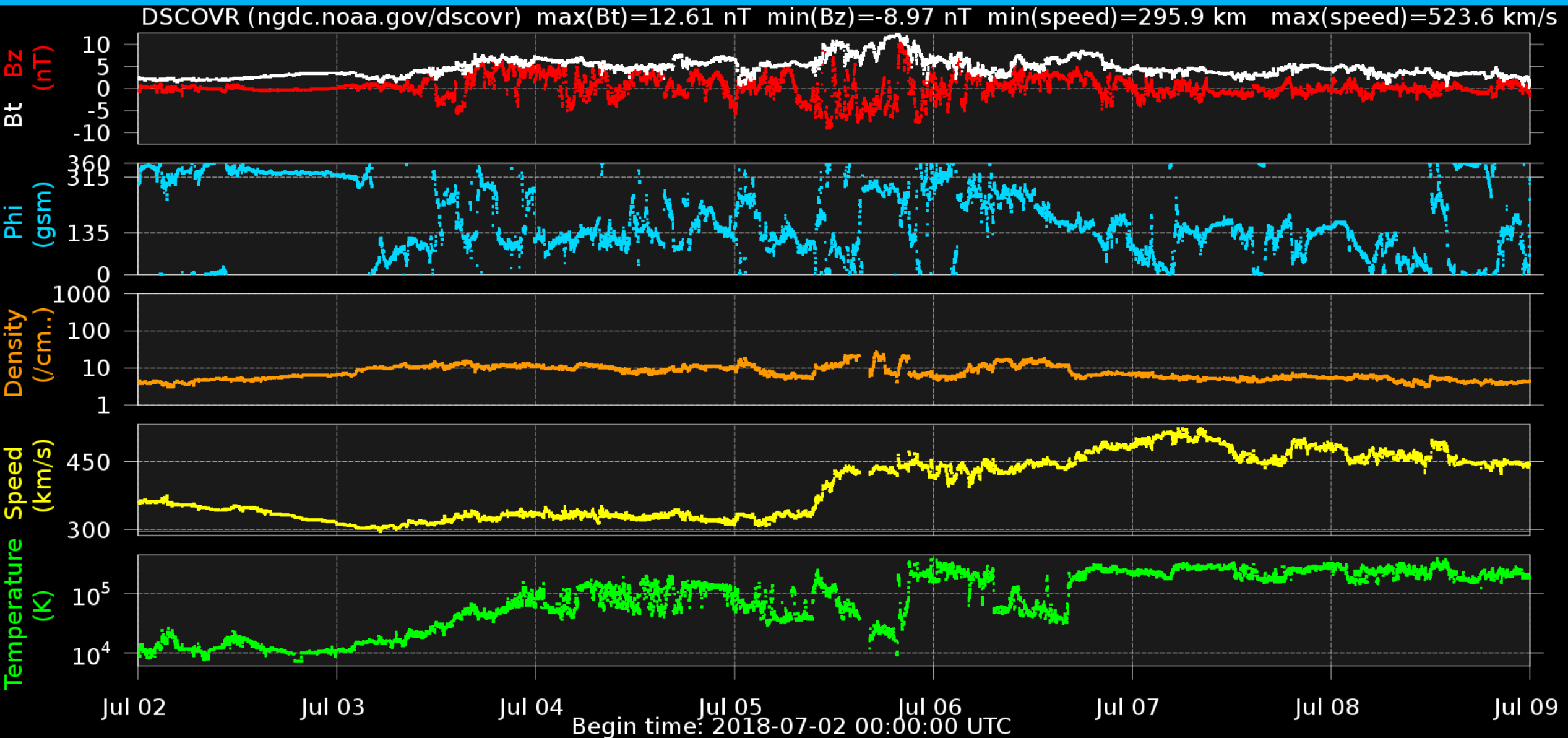


Royal Observatory  
*of* Belgium

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

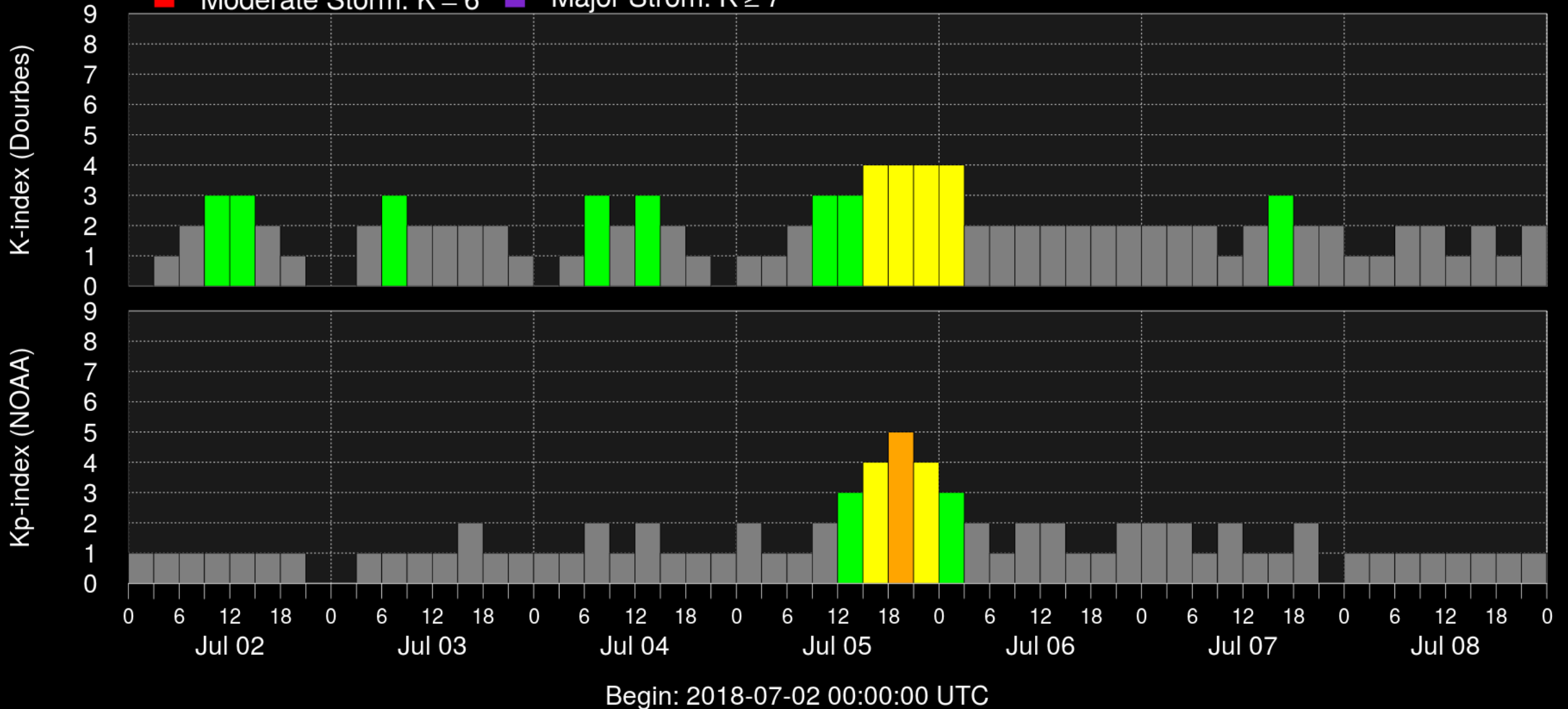


# Solar wind parameters (DSCOVR data)

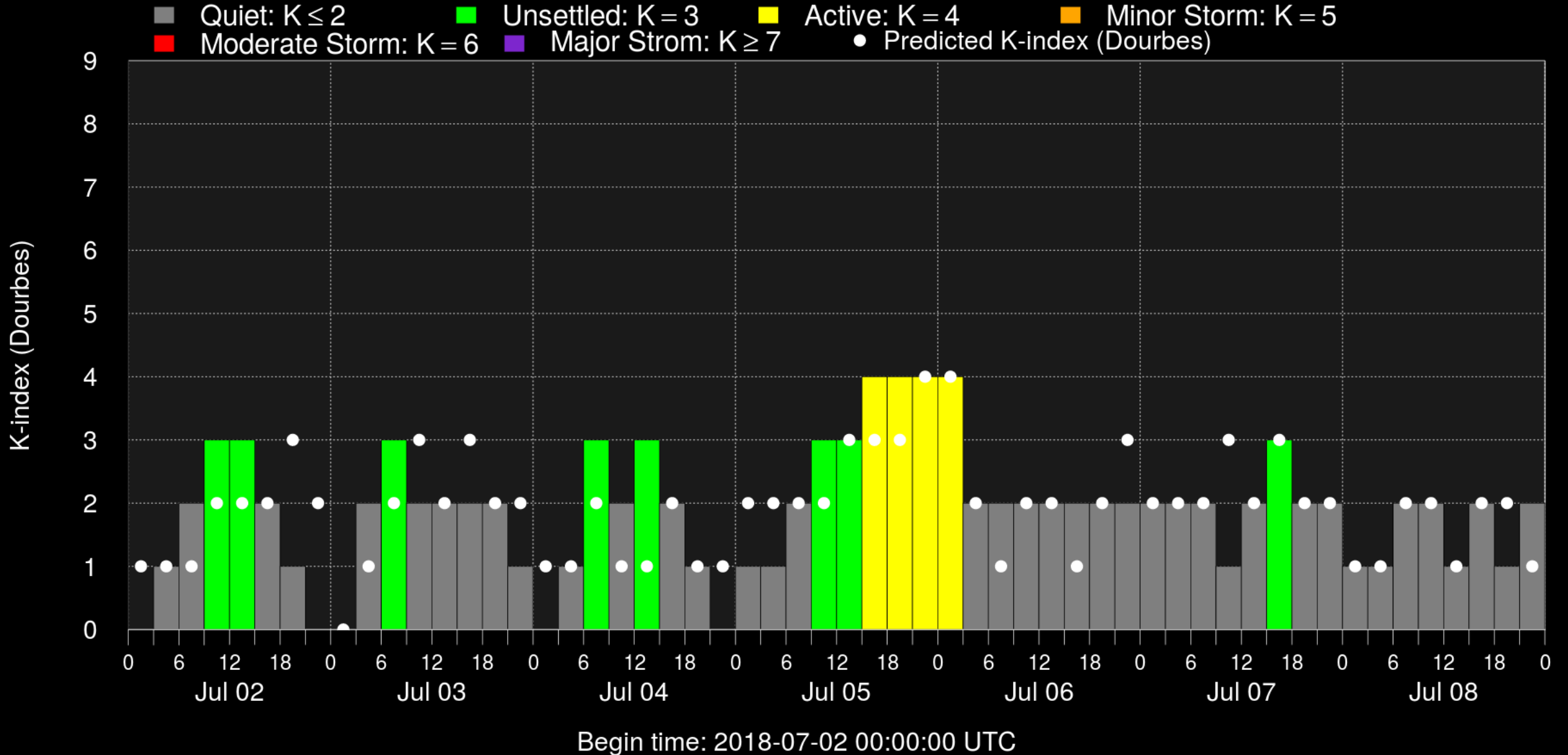


# Geomagnetic activity (K-indexes)

■ Quiet:  $K \leq 2$    ■ Unsettled:  $K = 3$    ■ Active:  $K = 4$    ■ Minor Storm:  $K = 5$   
■ Moderate Storm:  $K = 6$    ■ Major Storm:  $K \geq 7$



# K-Dourbes index



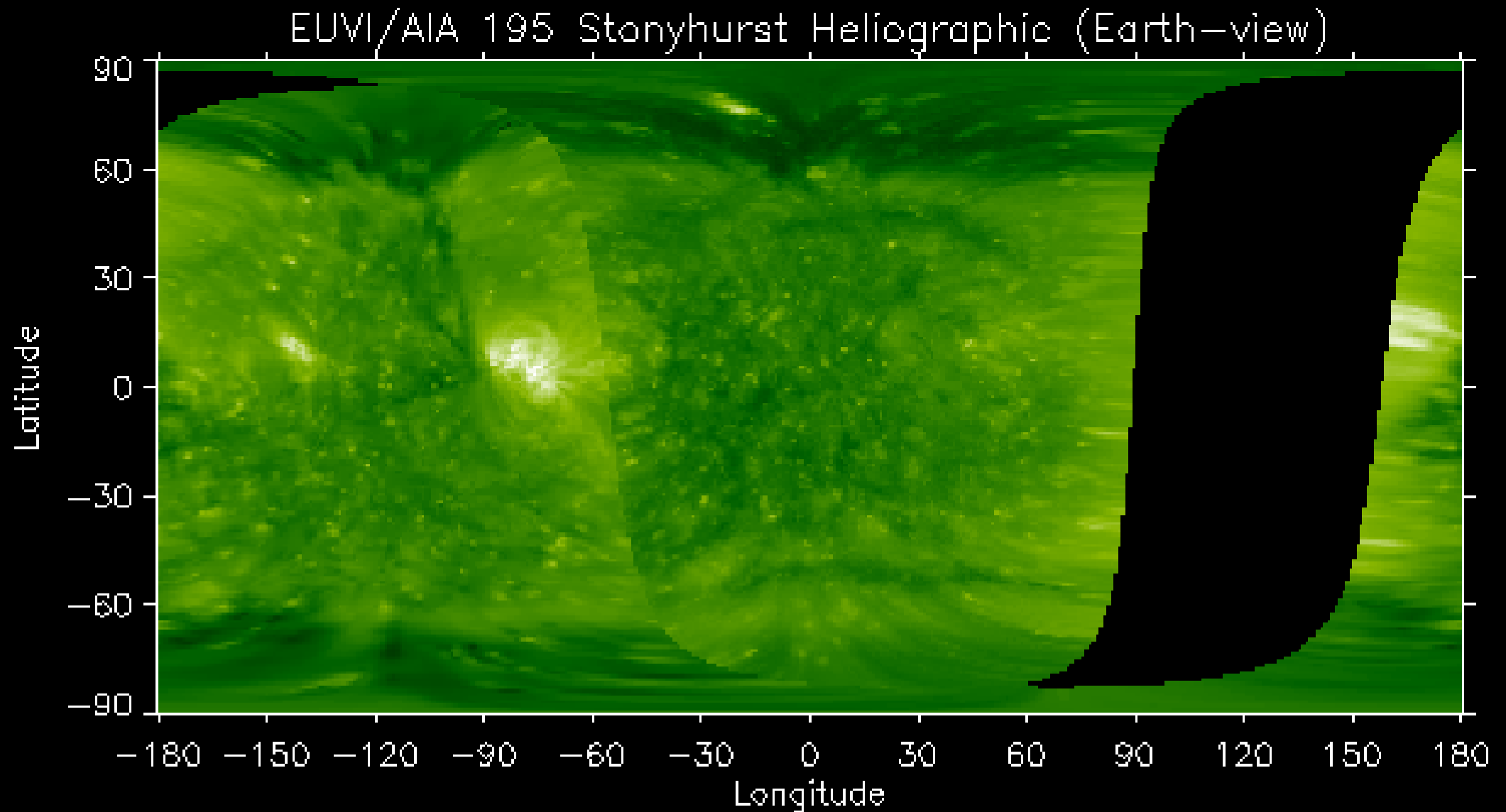
# Outlook



Royal Observatory  
*of* Belgium

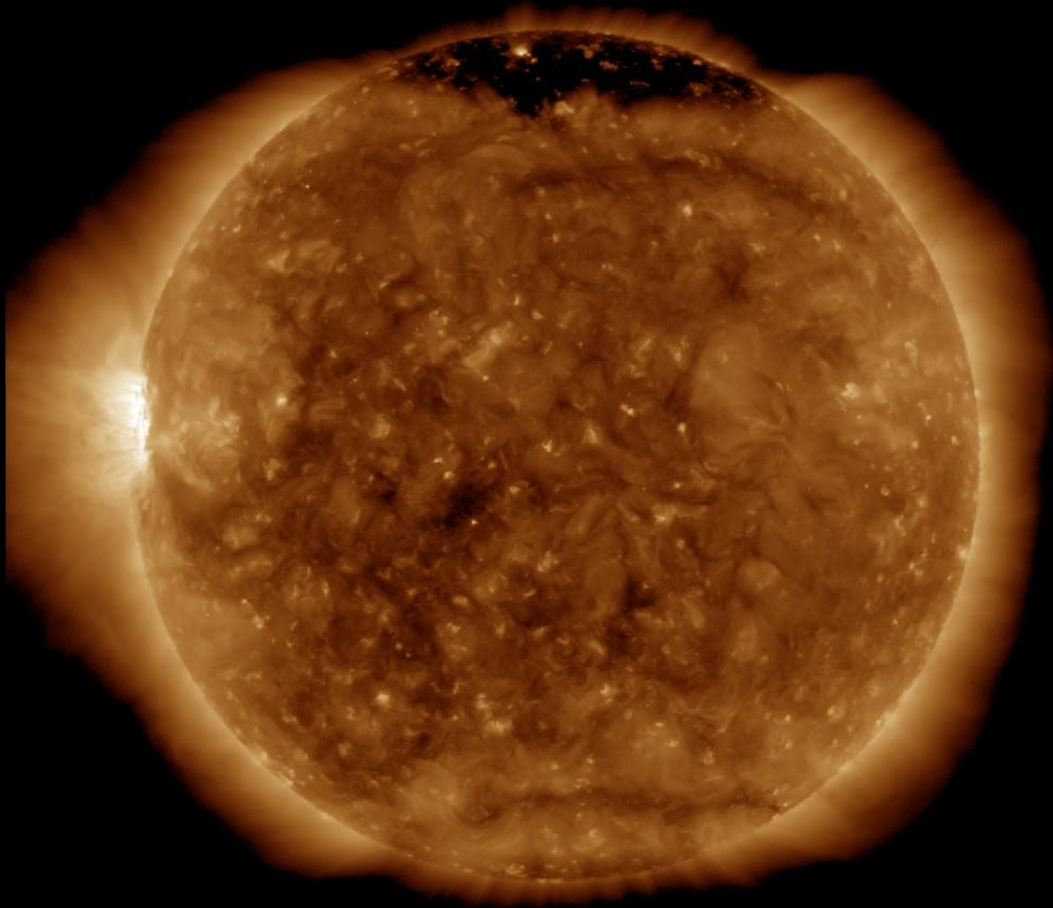
Solar Influences  
Data analysis Centre  
[www.sidc.be](http://www.sidc.be)

# Outlook: Solar activity

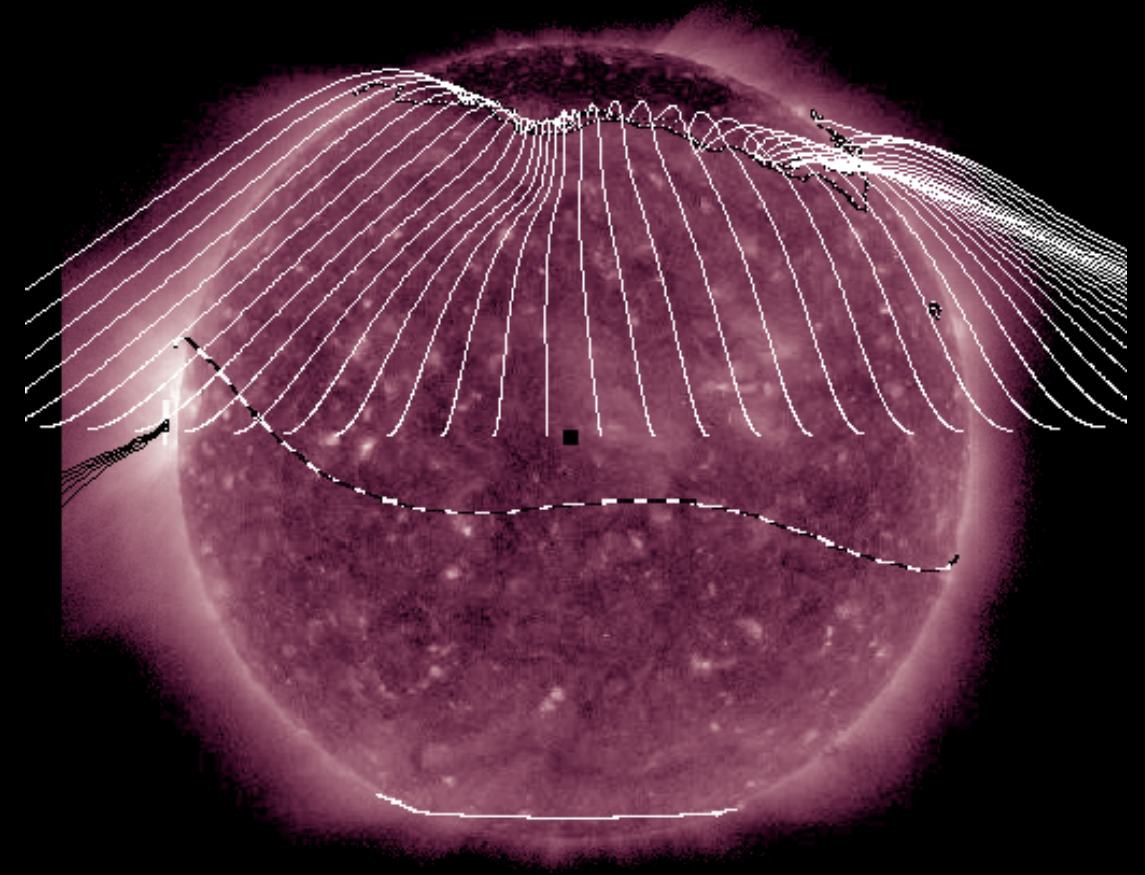


# Outlook: Solar wind

SDO/AIA 1.93nm 2018-07-08



IMF with its origins (LMSAL/VSL Model) 2018-07-07



SDO/AIA 193 2018-07-08 21:10:41 UT

Model: 2018/07/07 12:04:32  
AIA: 2018/07/07 06:28:59

# SIDC Space Weather Briefing

See you at our next briefing!

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



Royal Observatory  
of Belgium

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