

SIDC Space Weather Briefing

20 September 2020 - 27 September 2020

Luciano Rodriguez
& the SIDC forecaster team



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Summary Report

Solar activity from 2020-09-20 to 2020-09-27

Active regions	NOAA AR 2773
Flares	# B-class flare: 17 # C-class flare: 1 # M-class flare: 0 # X-class flare: 0
Filament eruptions	None of relevance
Coronal Holes	Nothern polar coronal hole (positive)

Proton flux	Below threshold
Electron flux	Above threshold (24/9 -)

Solar wind and geomagnetic conditions from 2020-09-20T12:00:00 to 2020-09-27T12:00:00

ICME	None
SW Conditions	B : 0.92 - 11.16 nT // Bz: -9.42 nT to 8.0 nT // Speed: 269.8 - 584.6km/s
K-indices	max K-index (Dourbes): 5 max Kp-index (NOAA): 5

All Quiet Alert: Off (since Monday 21/9)

Solar Activity

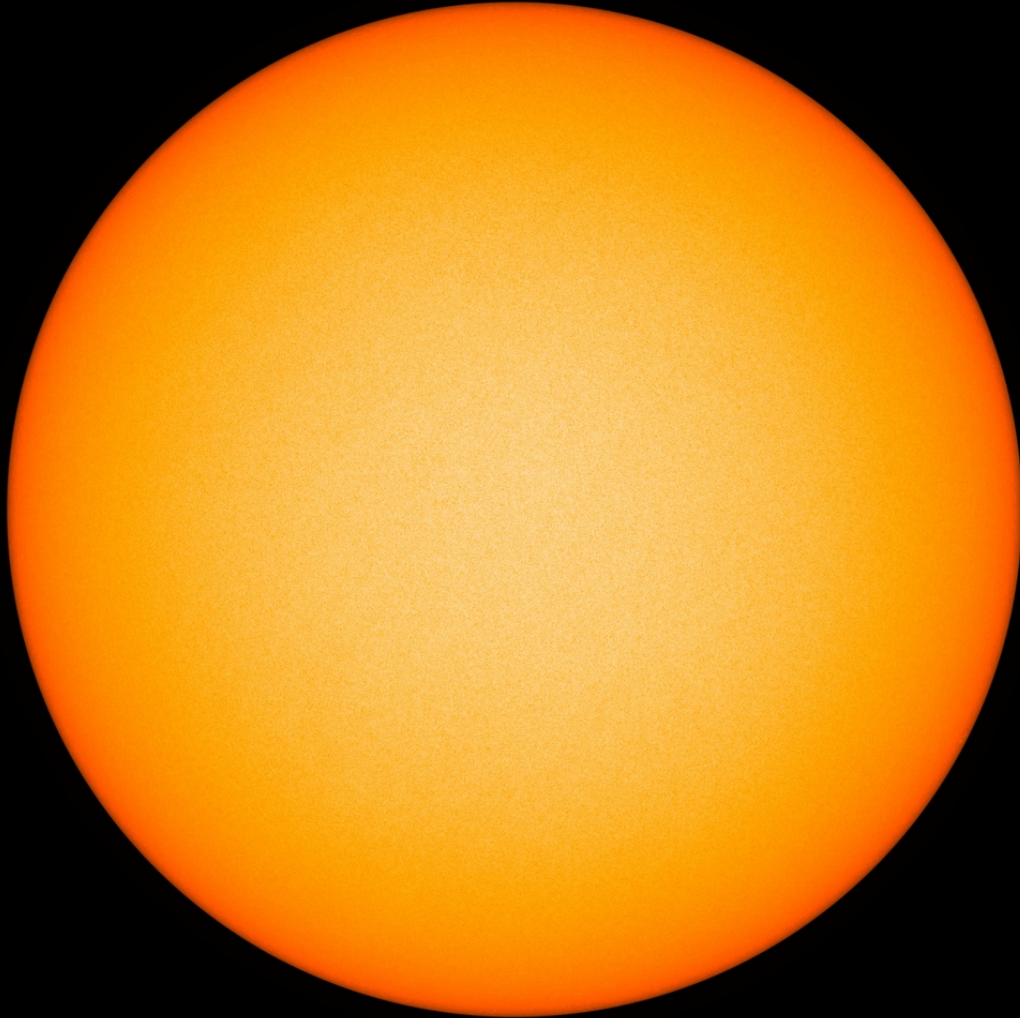


Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

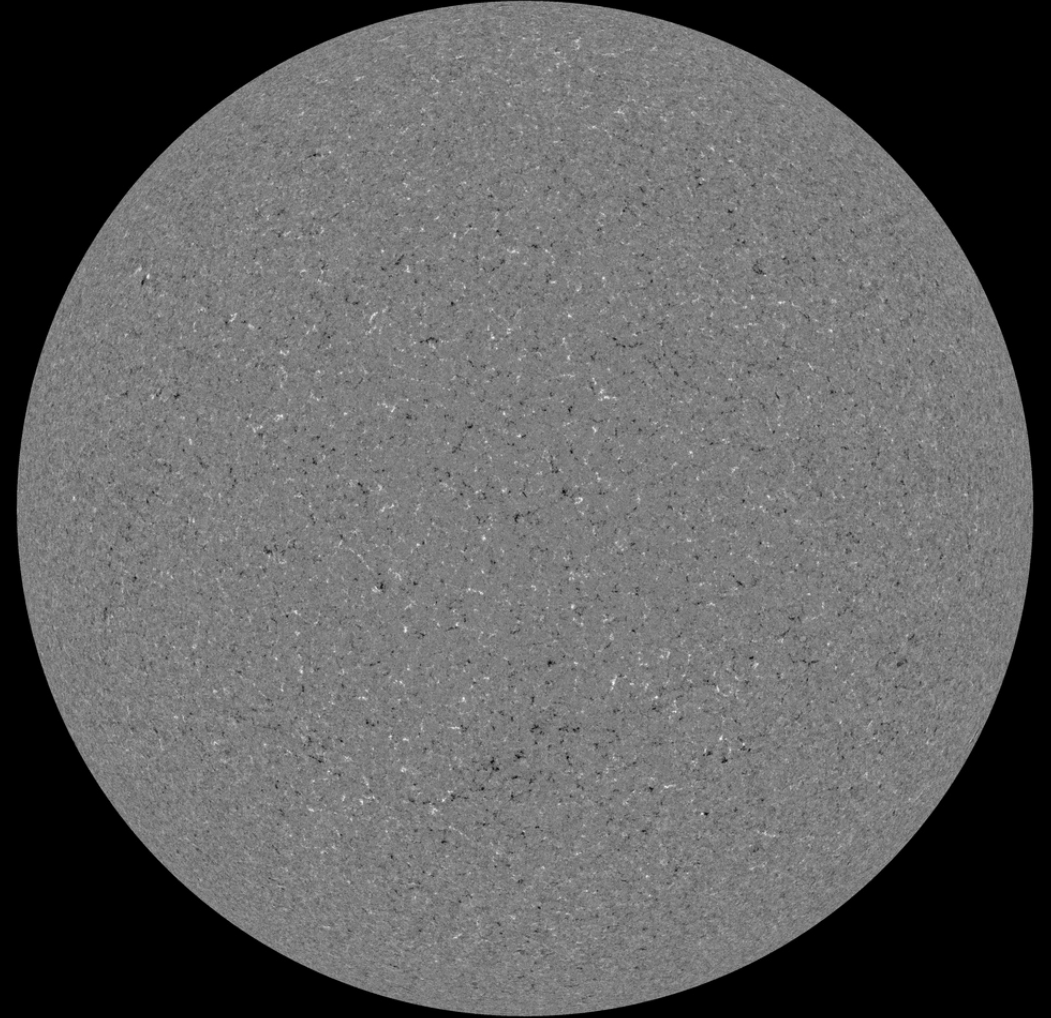
Solar active regions - Sunday

SDO/HMI White Light 2020-09-20



SDO/HMI Quick-Look Continuum: 20200920_114500

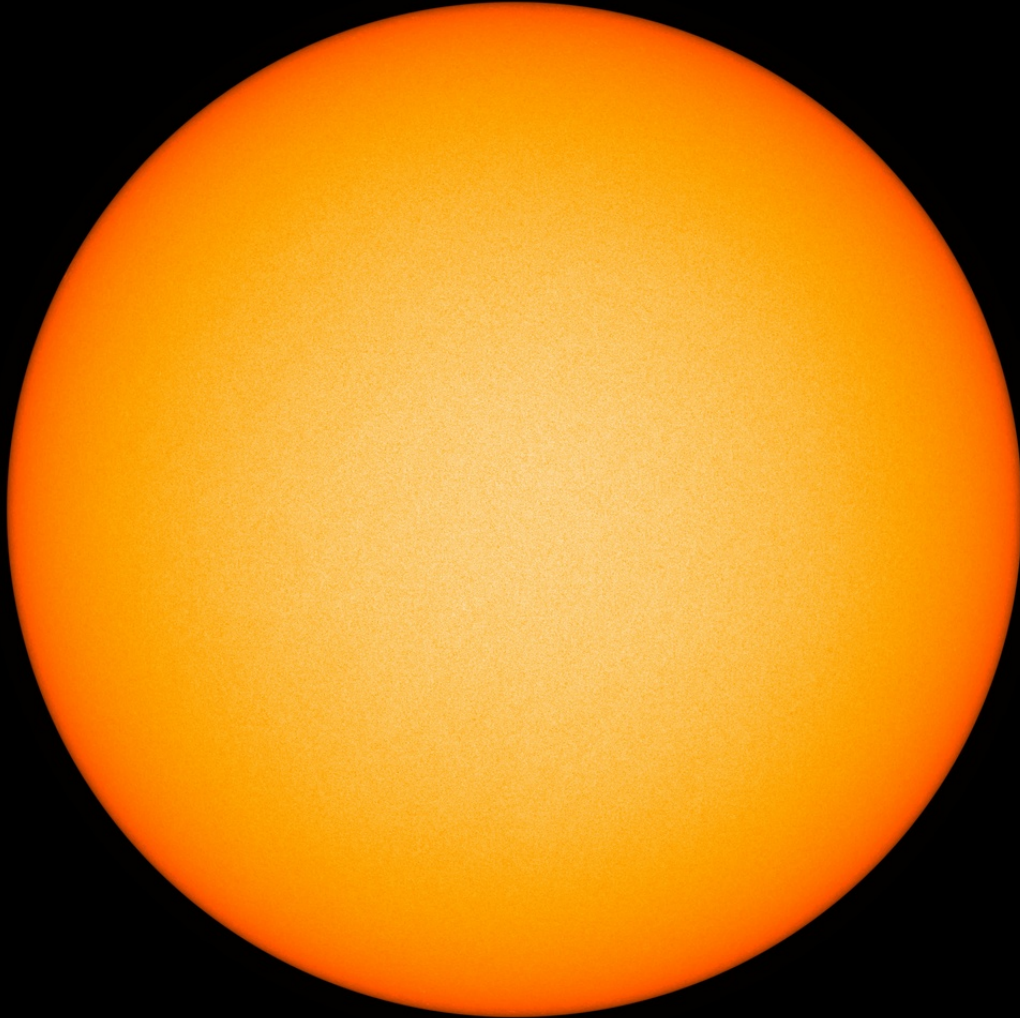
SDO/HMI Magnetogram 2020-09-20



SDO/HMI Quick-Look Magnetogram: 20200920_114500

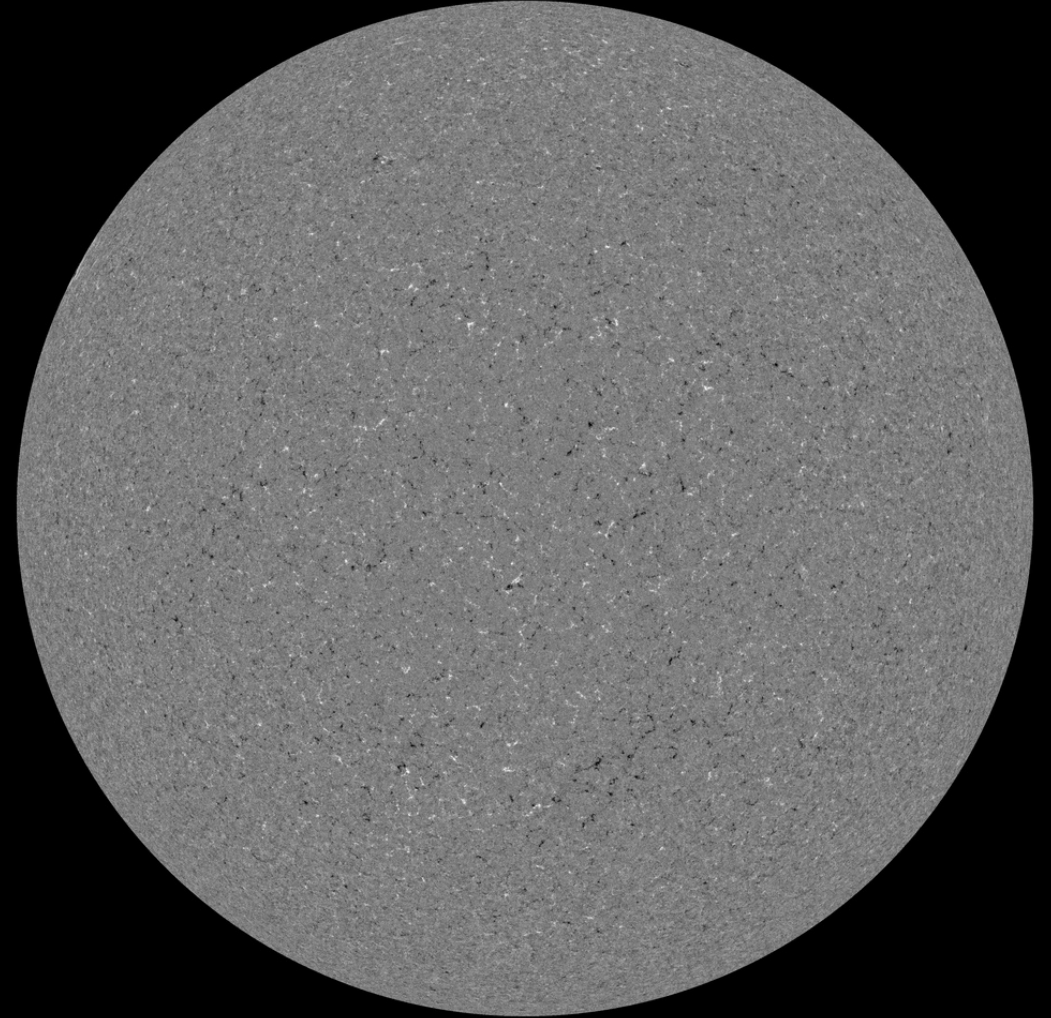
Solar active regions - Monday

SDO/HMI White Light 2020-09-21



SDO/HMI Quick-Look Continuum: 20200921_114500

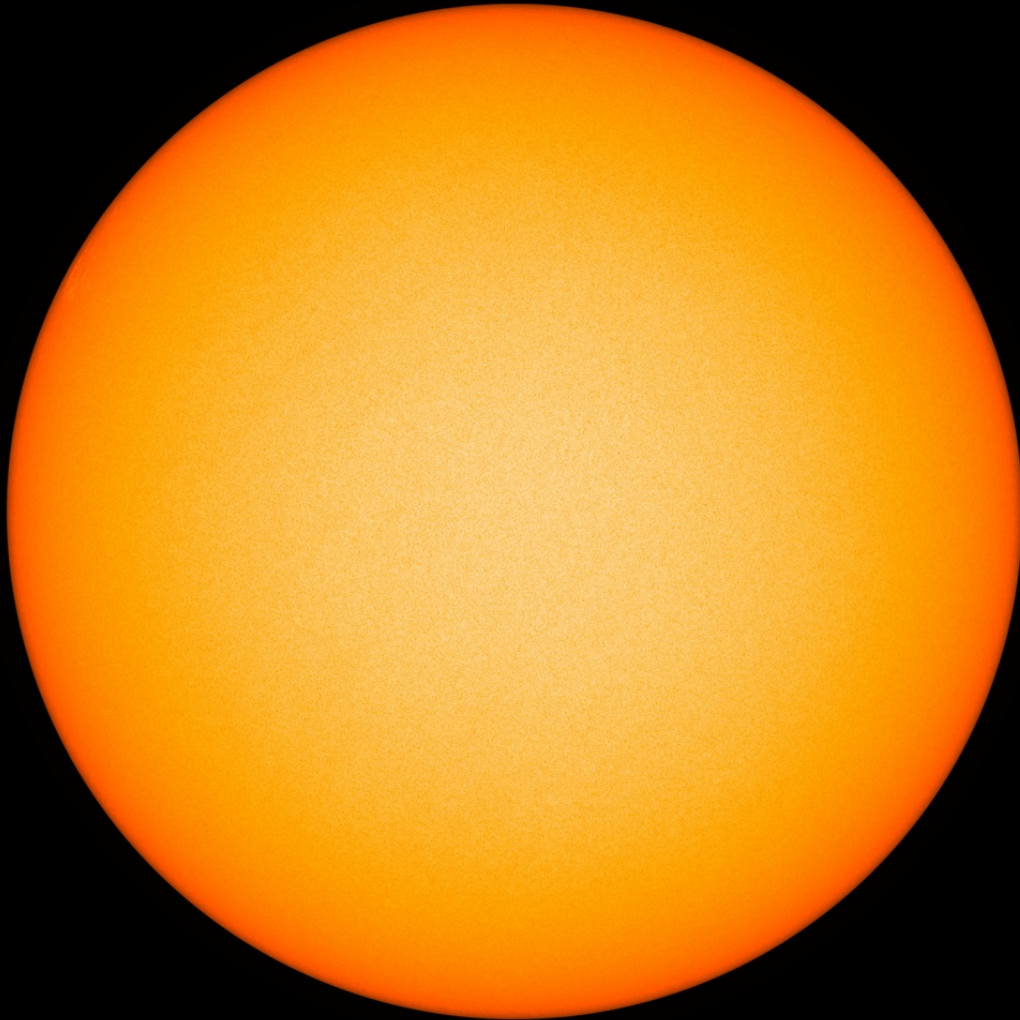
SDO/HMI Magnetogram 2020-09-21



SDO/HMI Quick-Look Magnetogram: 20200921_114500

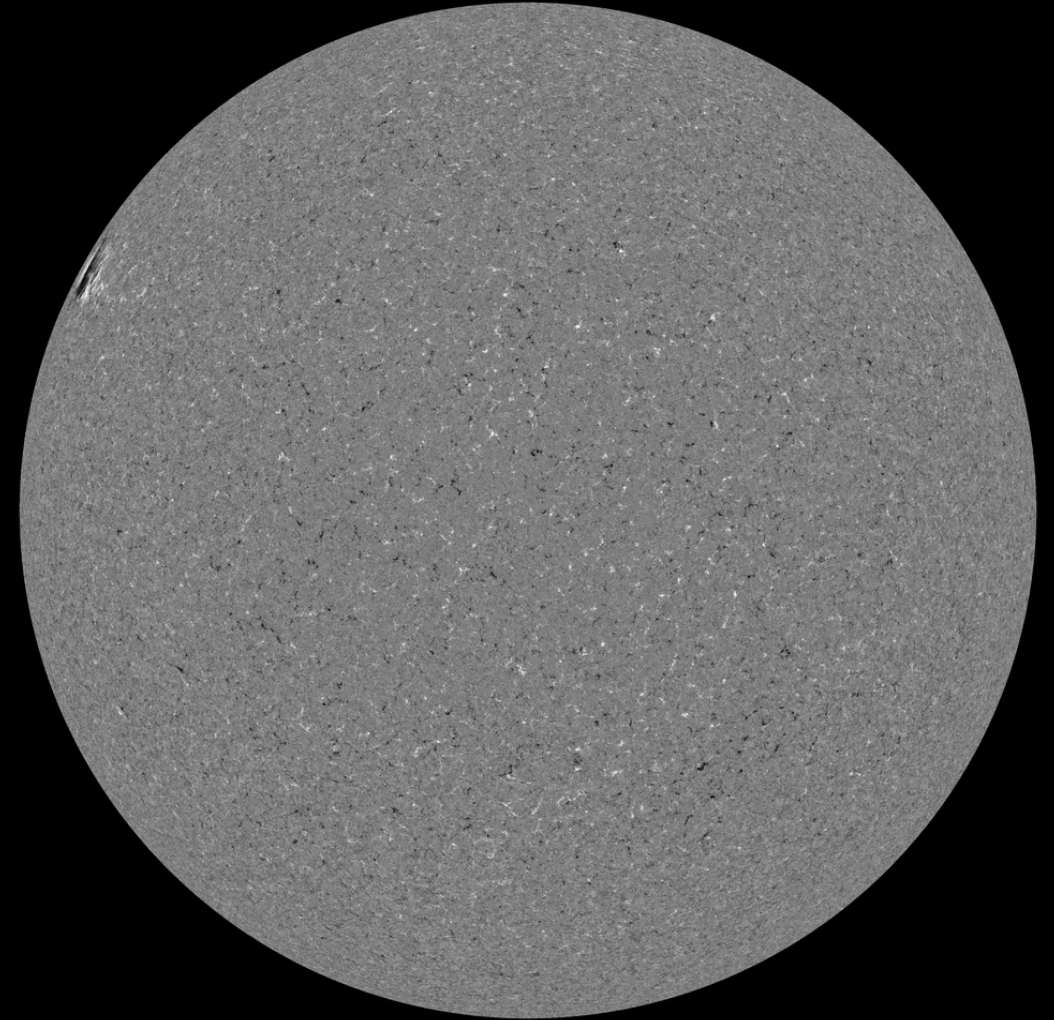
Solar active regions - Tuesday

SDO/HMI White Light 2020-09-22



SDO/HMI Quick-Look Continuum: 20200922_114500

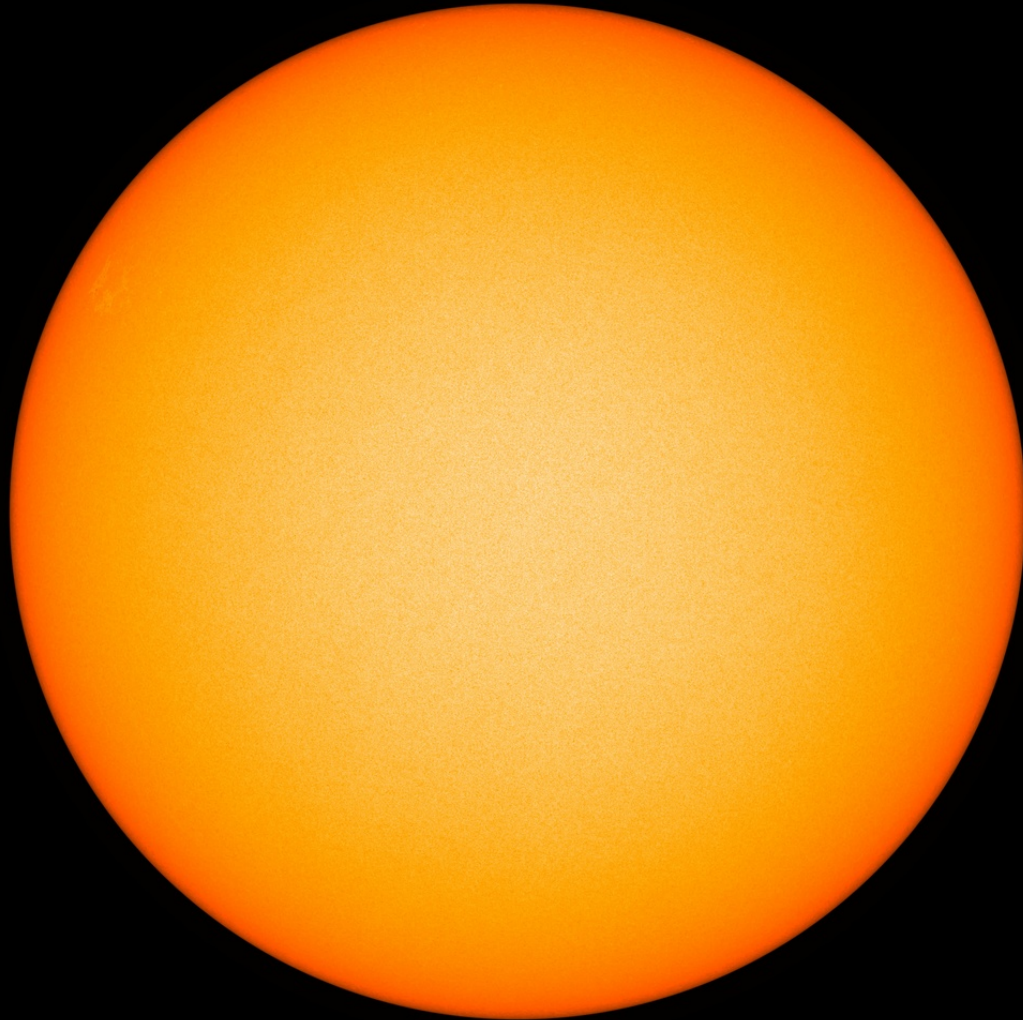
SDO/HMI Magnetogram 2020-09-22



SDO/HMI Quick-Look Magnetogram: 20200922_114500

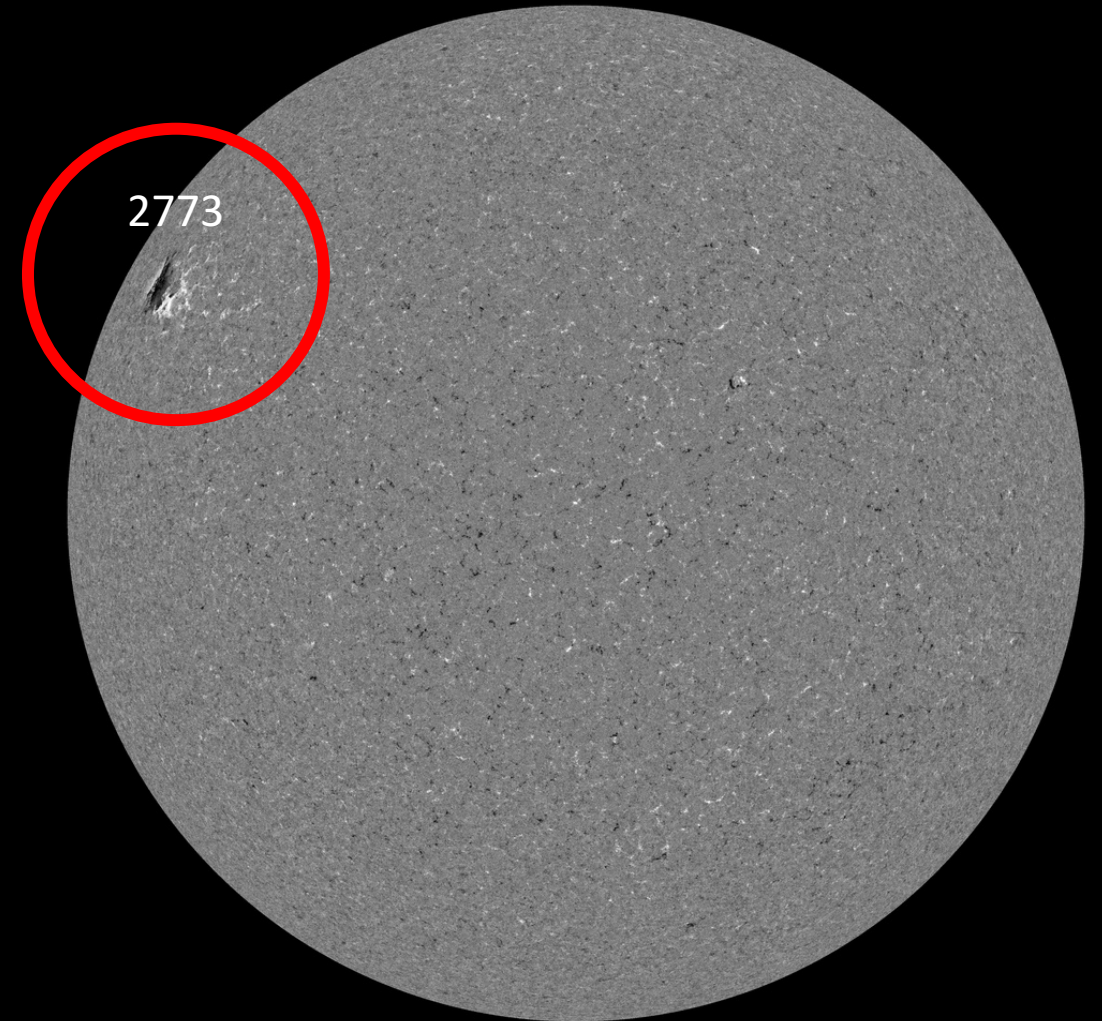
Solar active regions - Wednesday

SDO/HMI White Light 2020-09-23



SDO/HMI Quick-Look Continuum: 20200923_114500

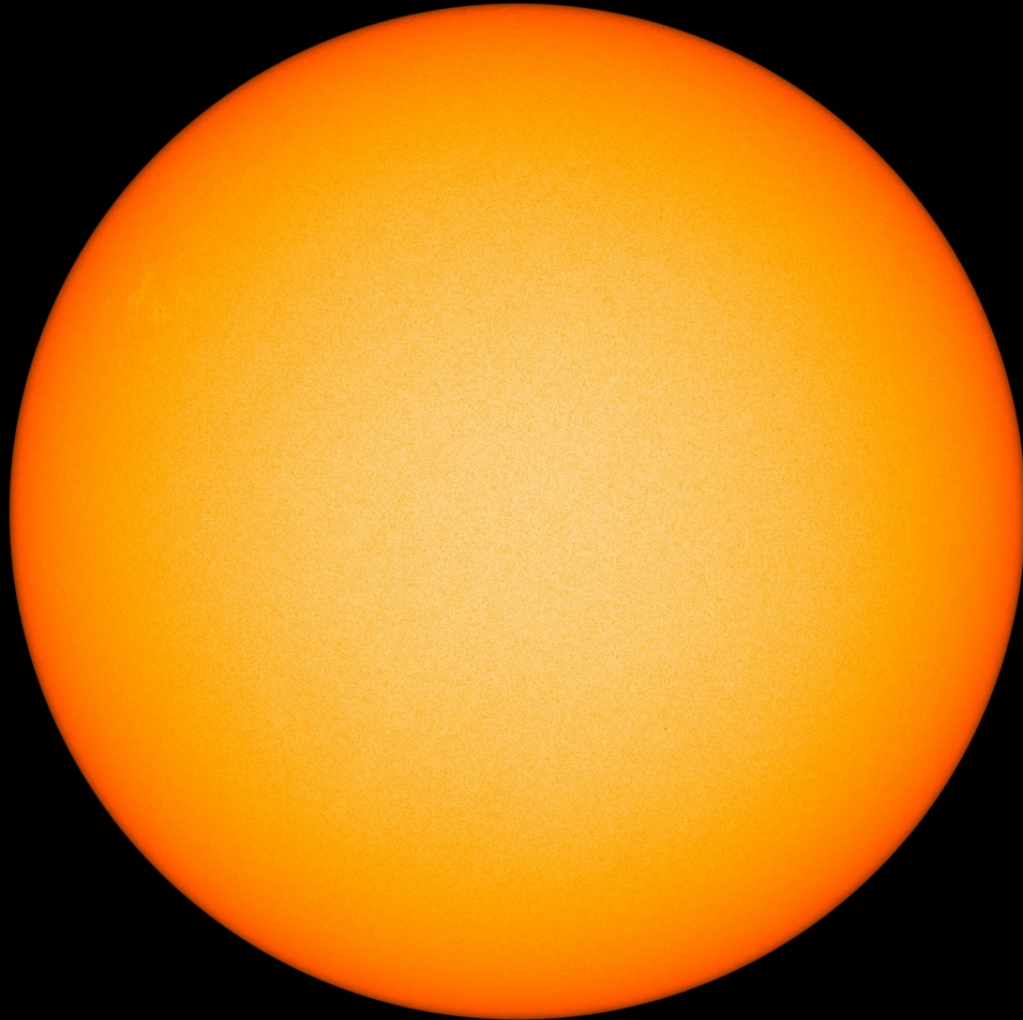
SDO/HMI Magnetogram 2020-09-23



SDO/HMI Quick-Look Magnetogram: 20200923_114500

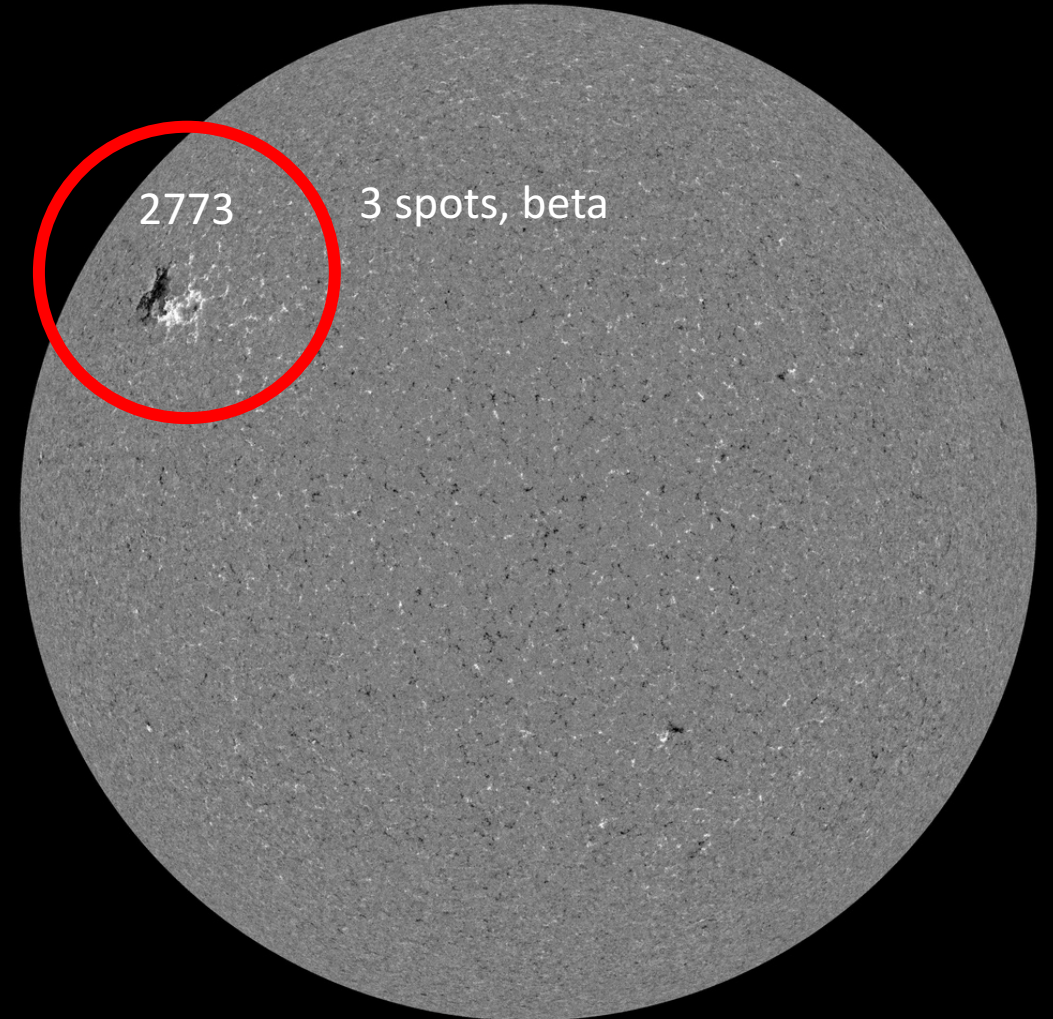
Solar active regions - Thursday

SDO/HMI White Light 2020-09-24



SDO/HMI Quick-Look Continuum: 20200924_114500

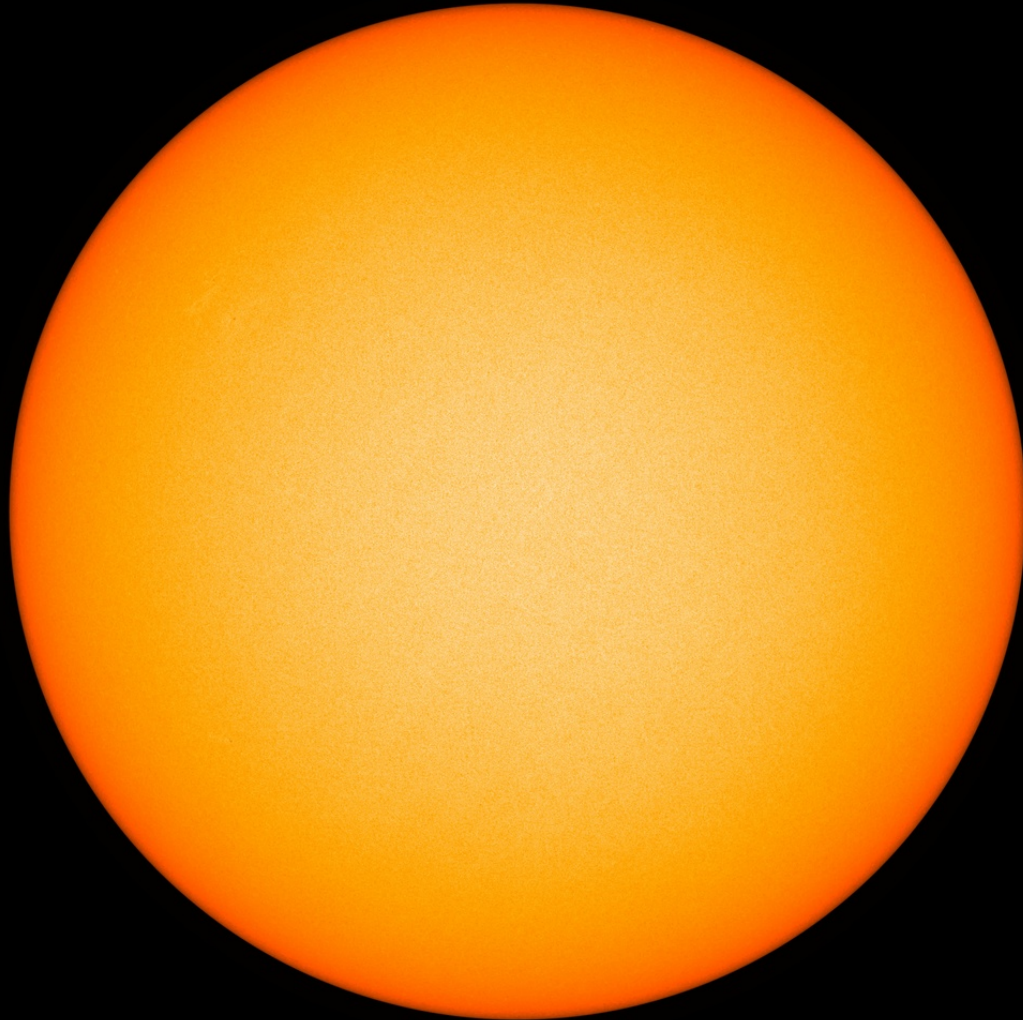
SDO/HMI Magnetogram 2020-09-24



SDO/HMI Quick-Look Magnetogram: 20200924_114500

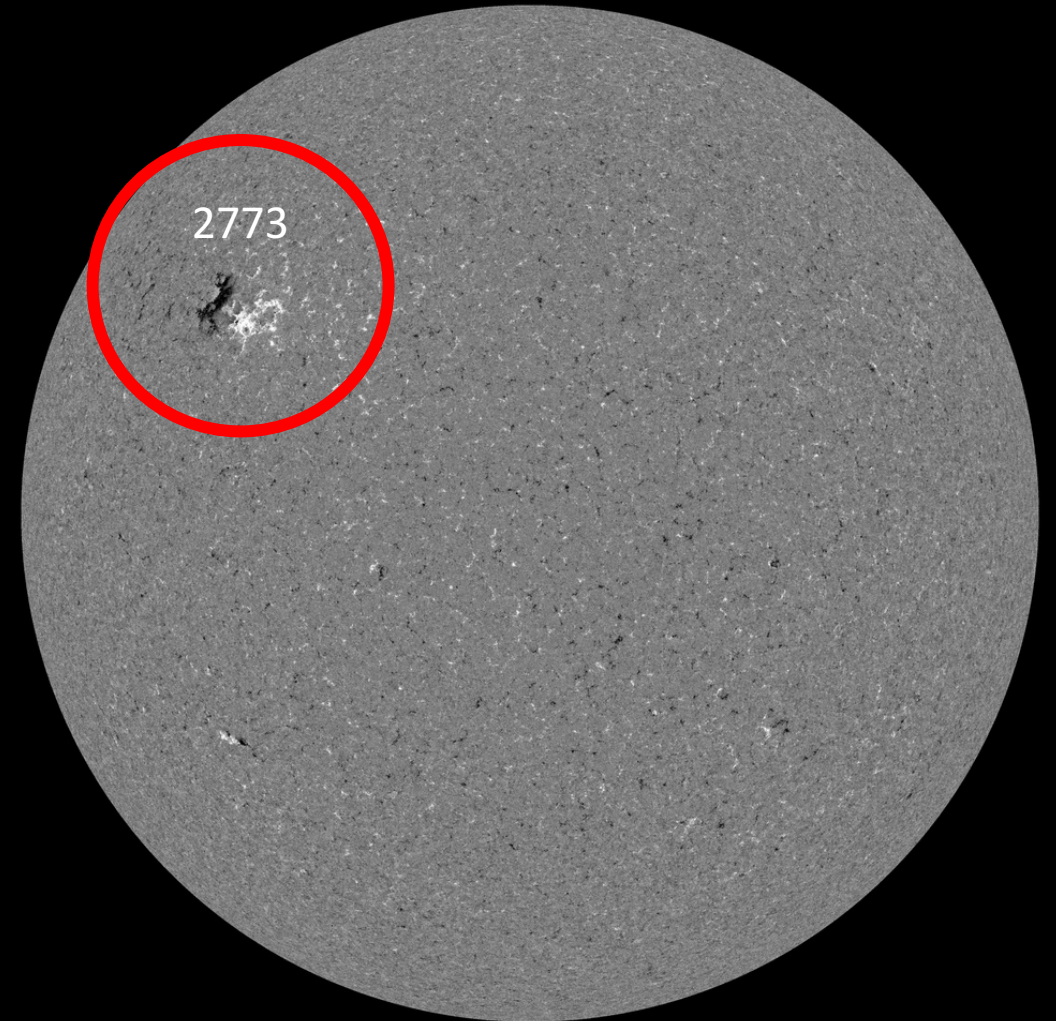
Solar active regions - Friday

SDO/HMI White Light 2020-09-25



SDO/HMI Quick-Look Continuum: 20200925_114500

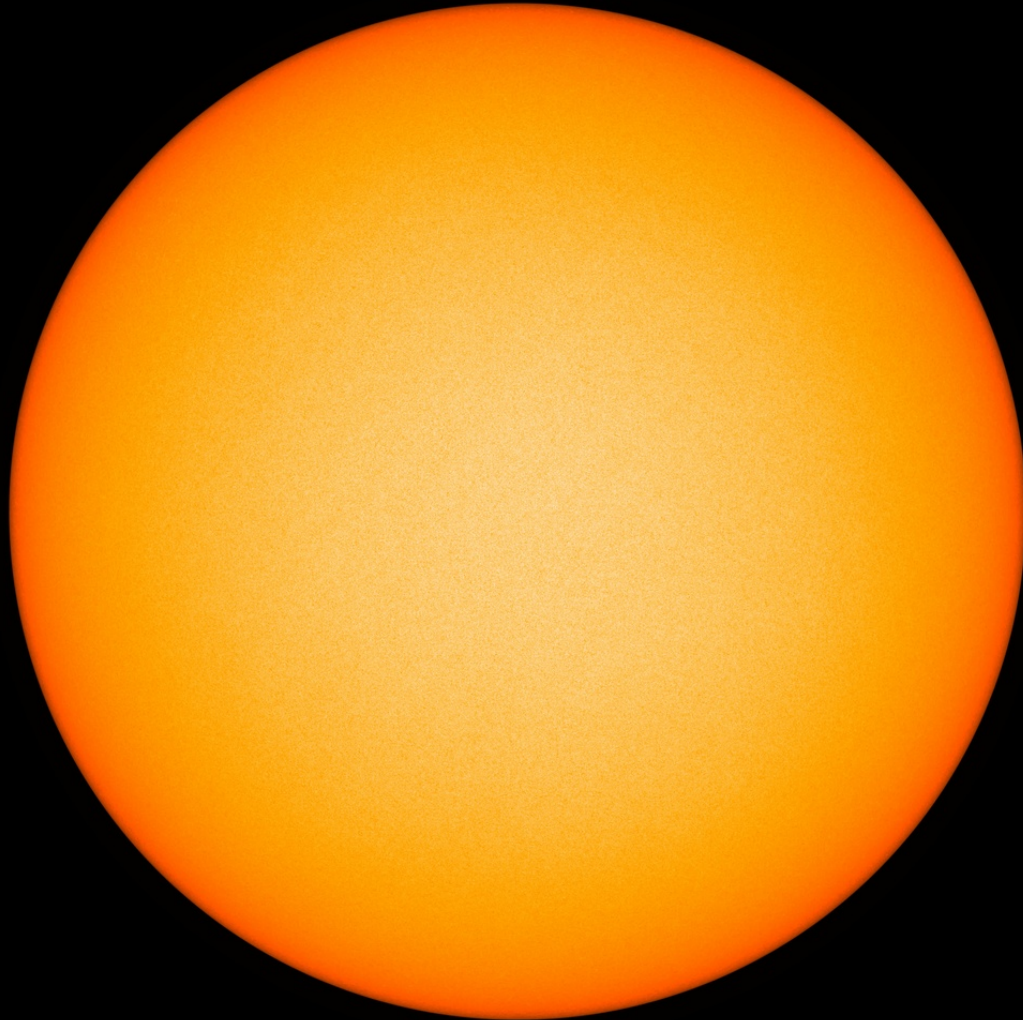
SDO/HMI Magnetogram 2020-09-25



SDO/HMI Quick-Look Magnetogram: 20200925_114500

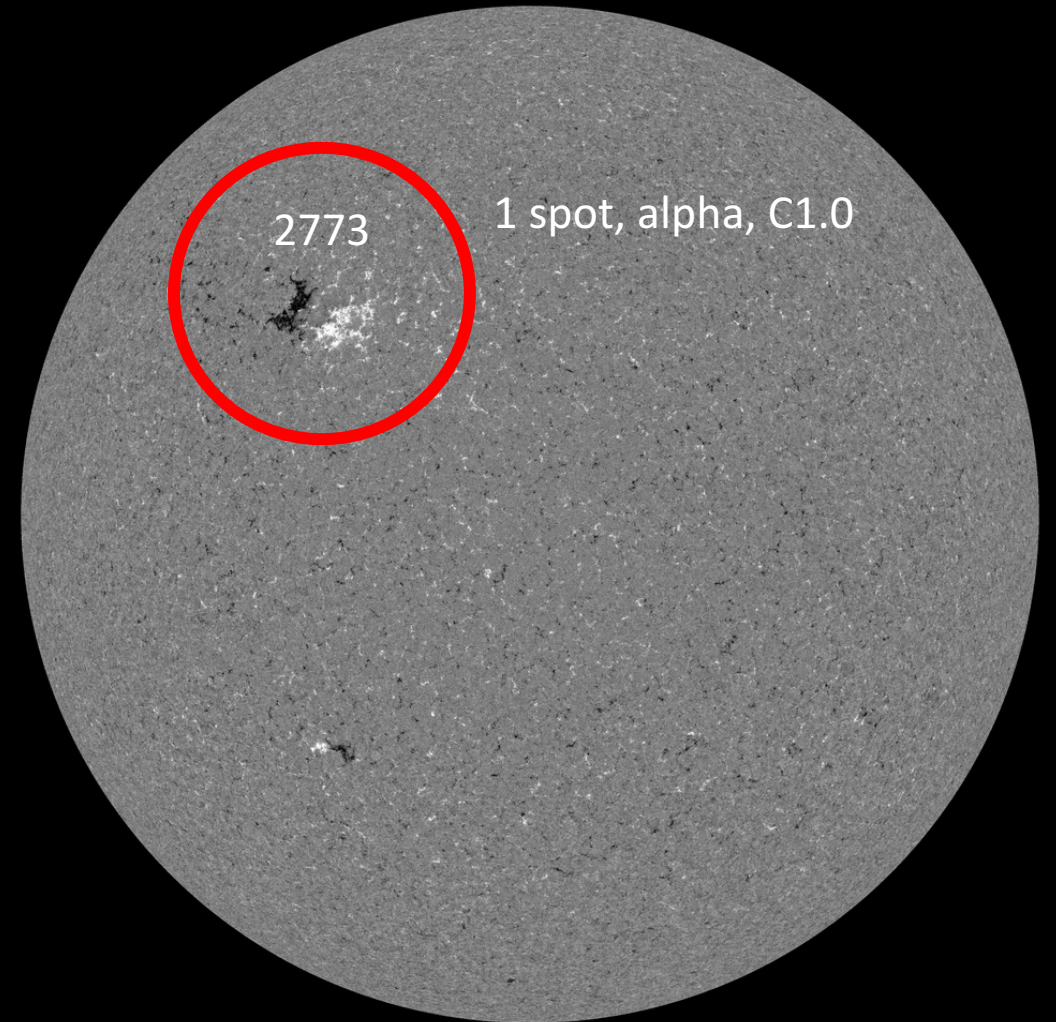
Solar active regions - Saturday

SDO/HMI White Light 2020-09-26



SDO/HMI Quick-Look Continuum: 20200926_114500

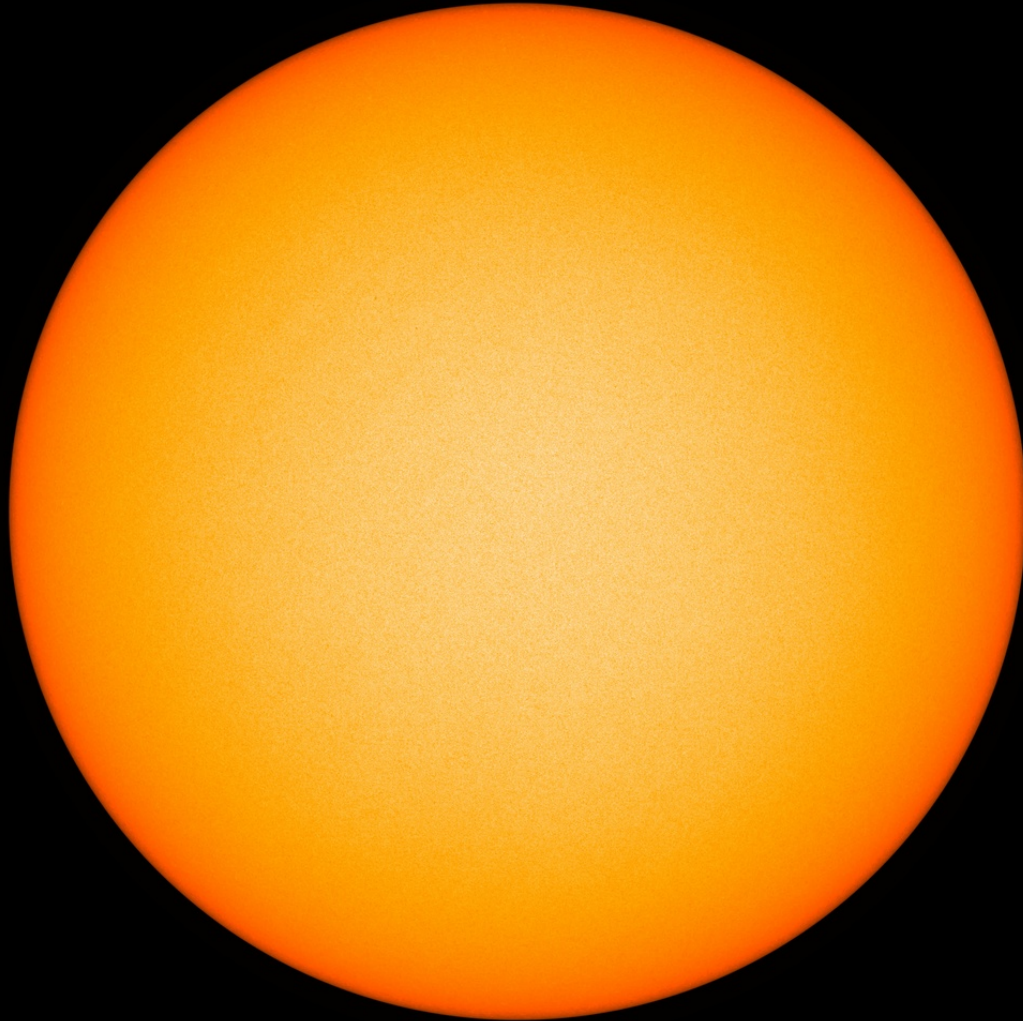
SDO/HMI Magnetogram 2020-09-26



SDO/HMI Quick-Look Magnetogram: 20200926_114500

Solar active regions - Sunday

SDO/HMI White Light 2020-09-27



SDO/HMI Quick-Look Continuum: 20200927_114500

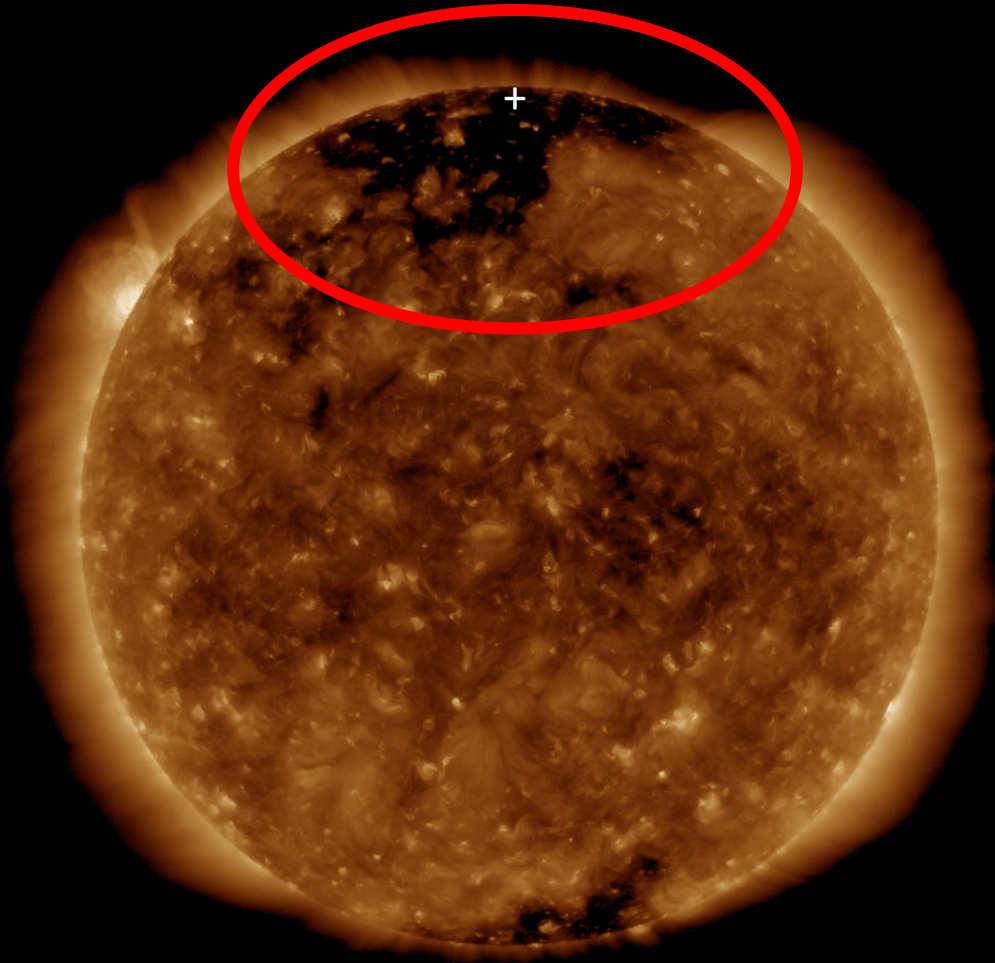
SDO/HMI Magnetogram 2020-09-27



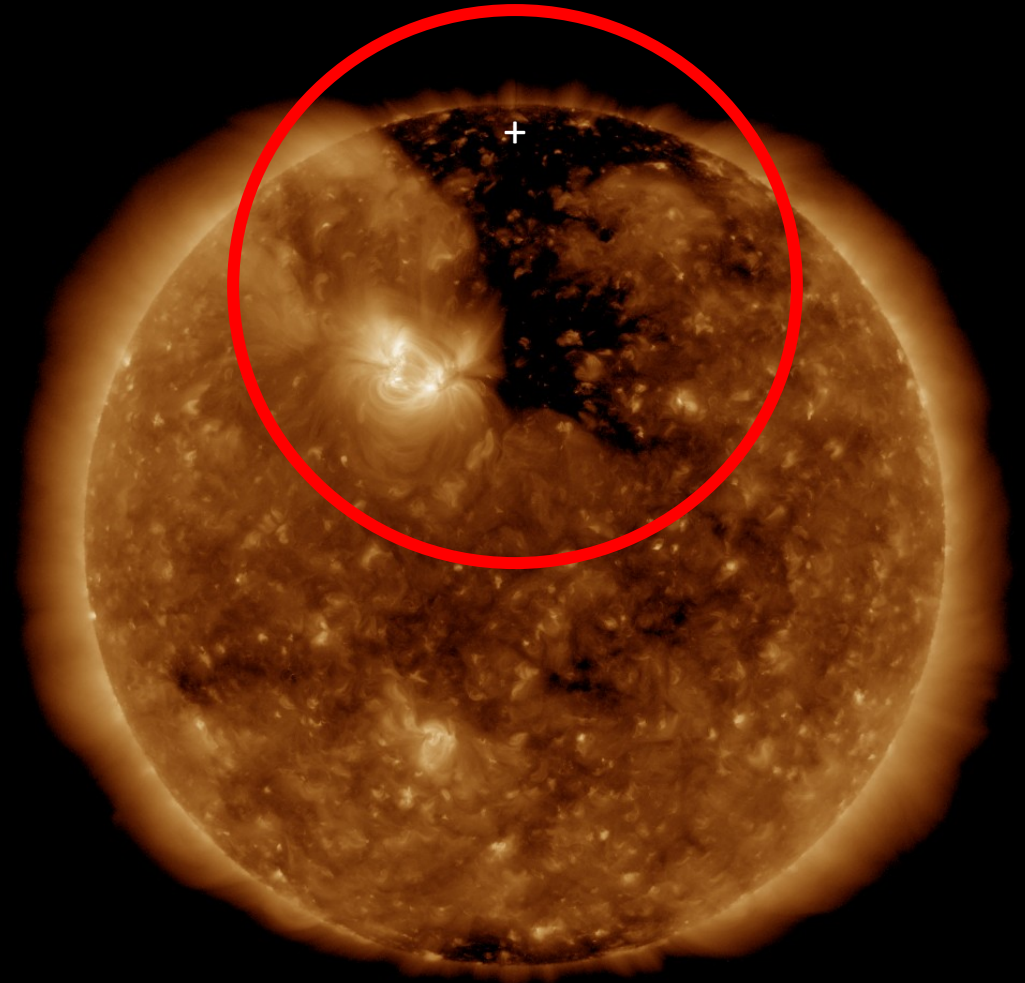
SDO/HMI Quick-Look Magnetogram: 20200927_114500

Coronal holes

SDO/AIA 19.3 nm 2020-09-20



SDO/AIA 19.3 nm 2020-09-27



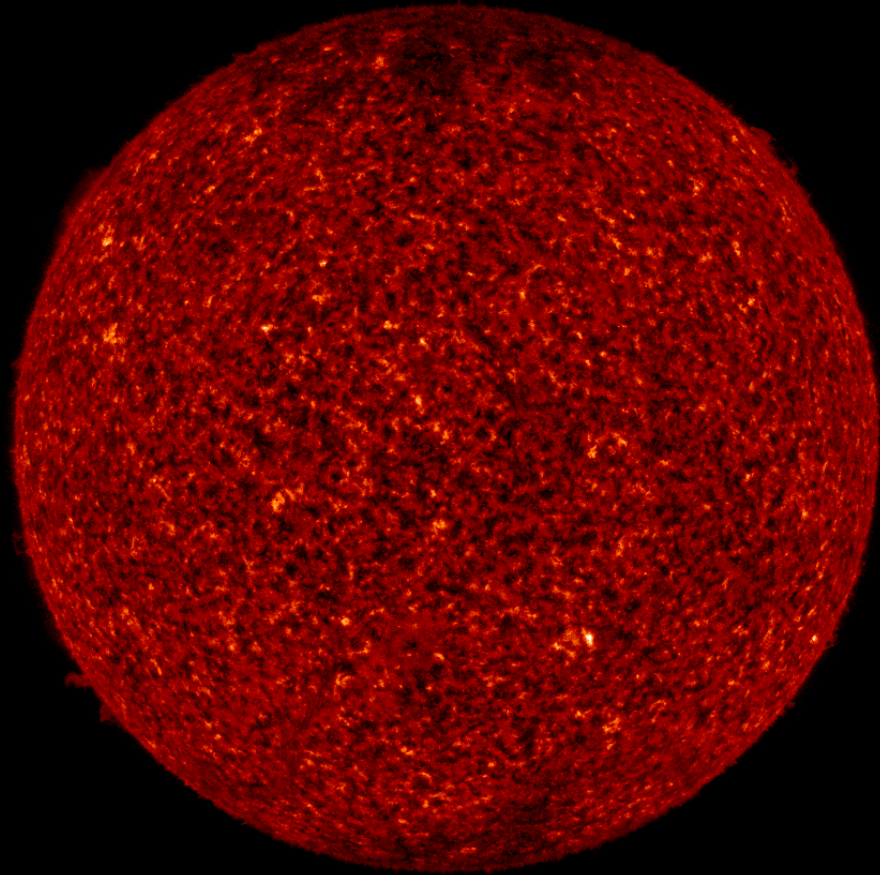
SDO/AIA 193 2020-09-20 12:17:05 UT

SDO/AIA 193 2020-09-27 12:17:29 UT

Filaments

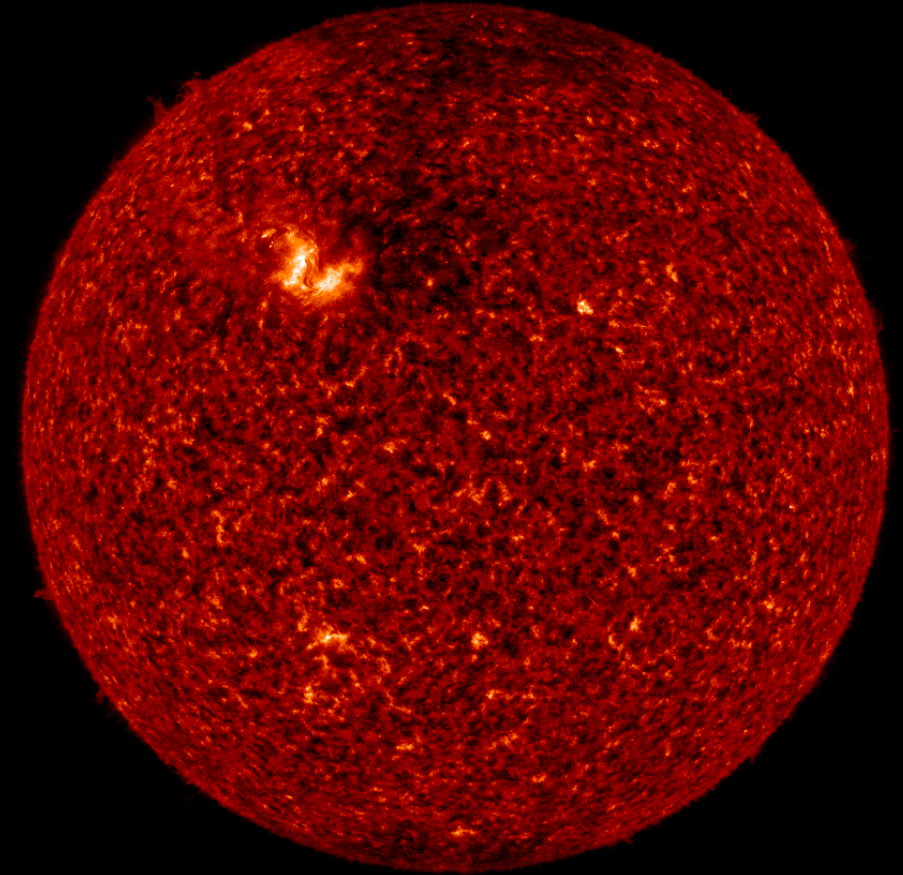
SDO/AIA 30.4 nm 2020-09-20

SDO/AIA AIA 304Å 2020-09-20T00:00:06.58



SDO/AIA 30.4 nm 2020-09-27

SDO/AIA AIA 304Å 2020-09-27T00:00:06.58



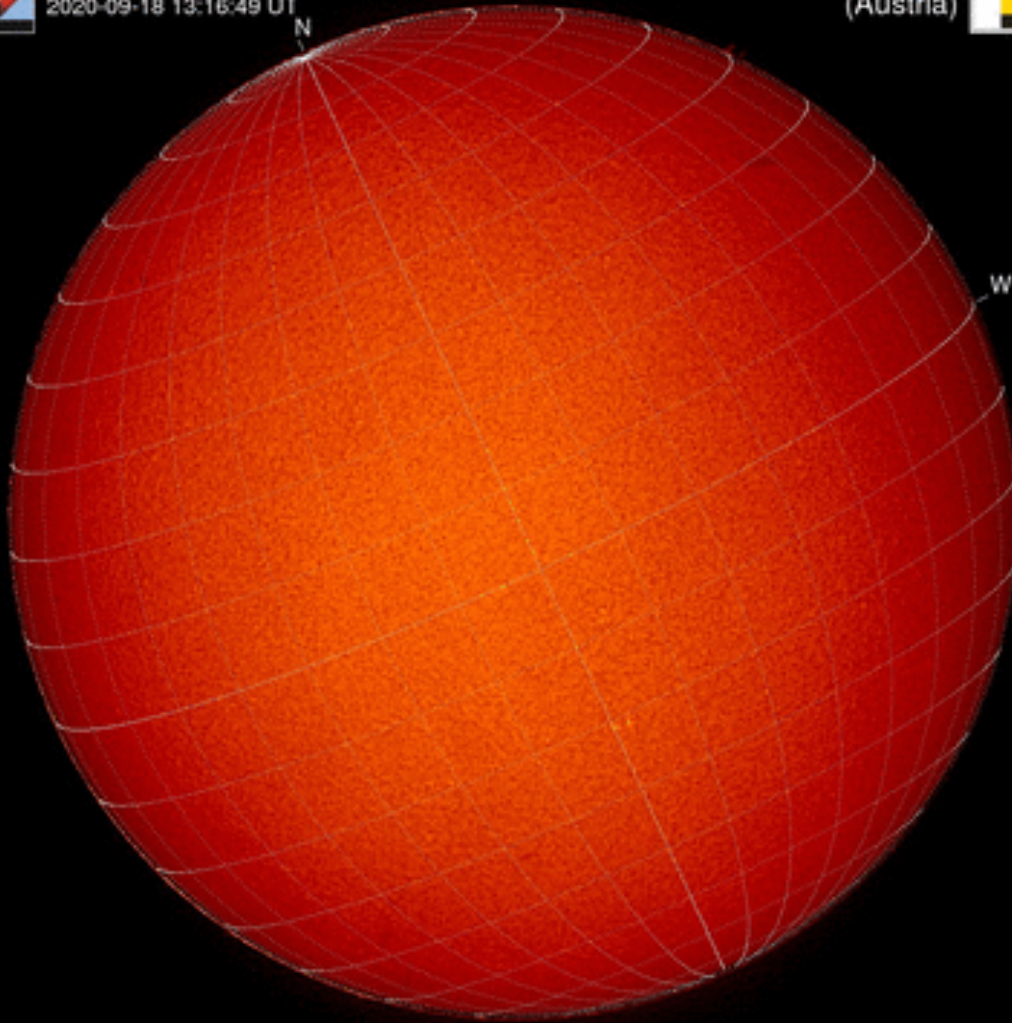
Filaments & Filament eruptions

H-alpha 2020-09-20



Kanzelhöhe Observatory
2020-09-18 13:16:49 UT

University of Graz
(Austria)

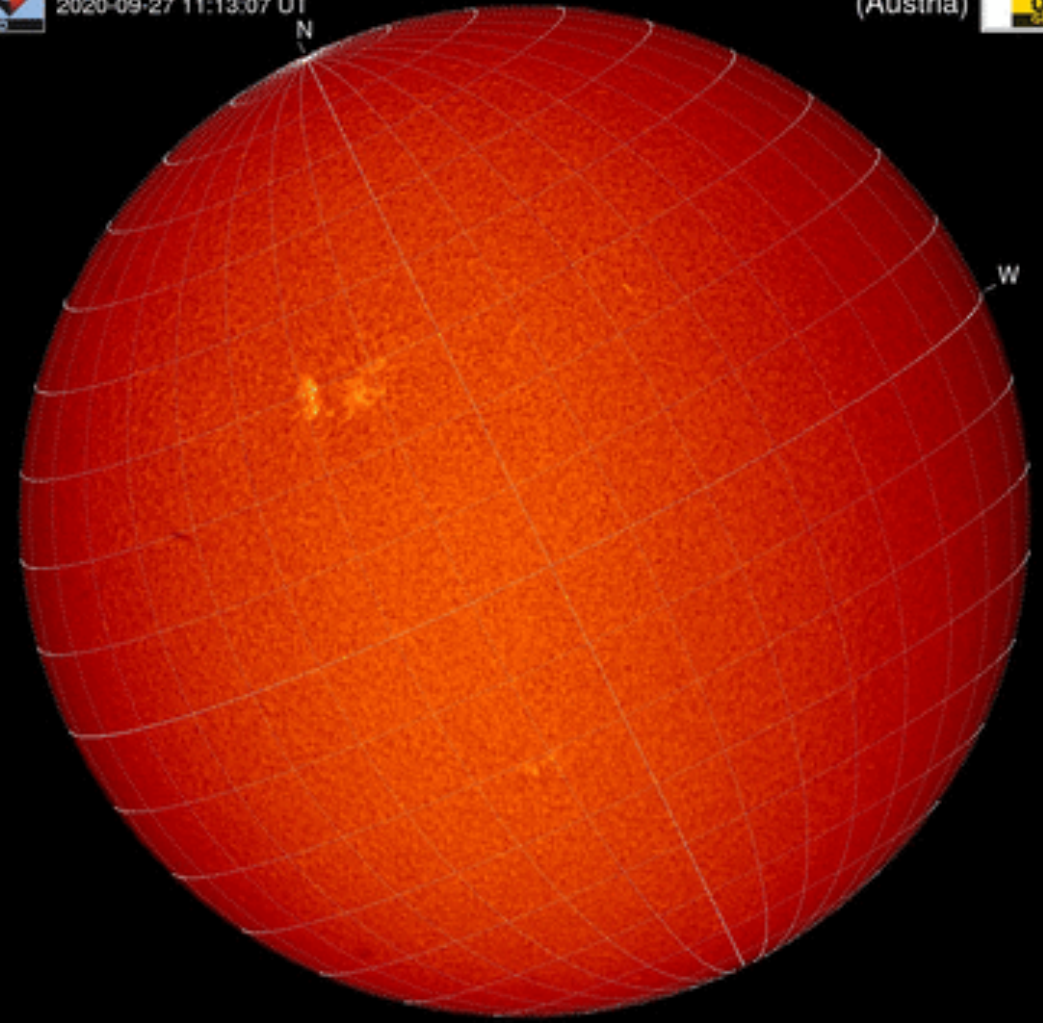


H-alpha 2020-09-27

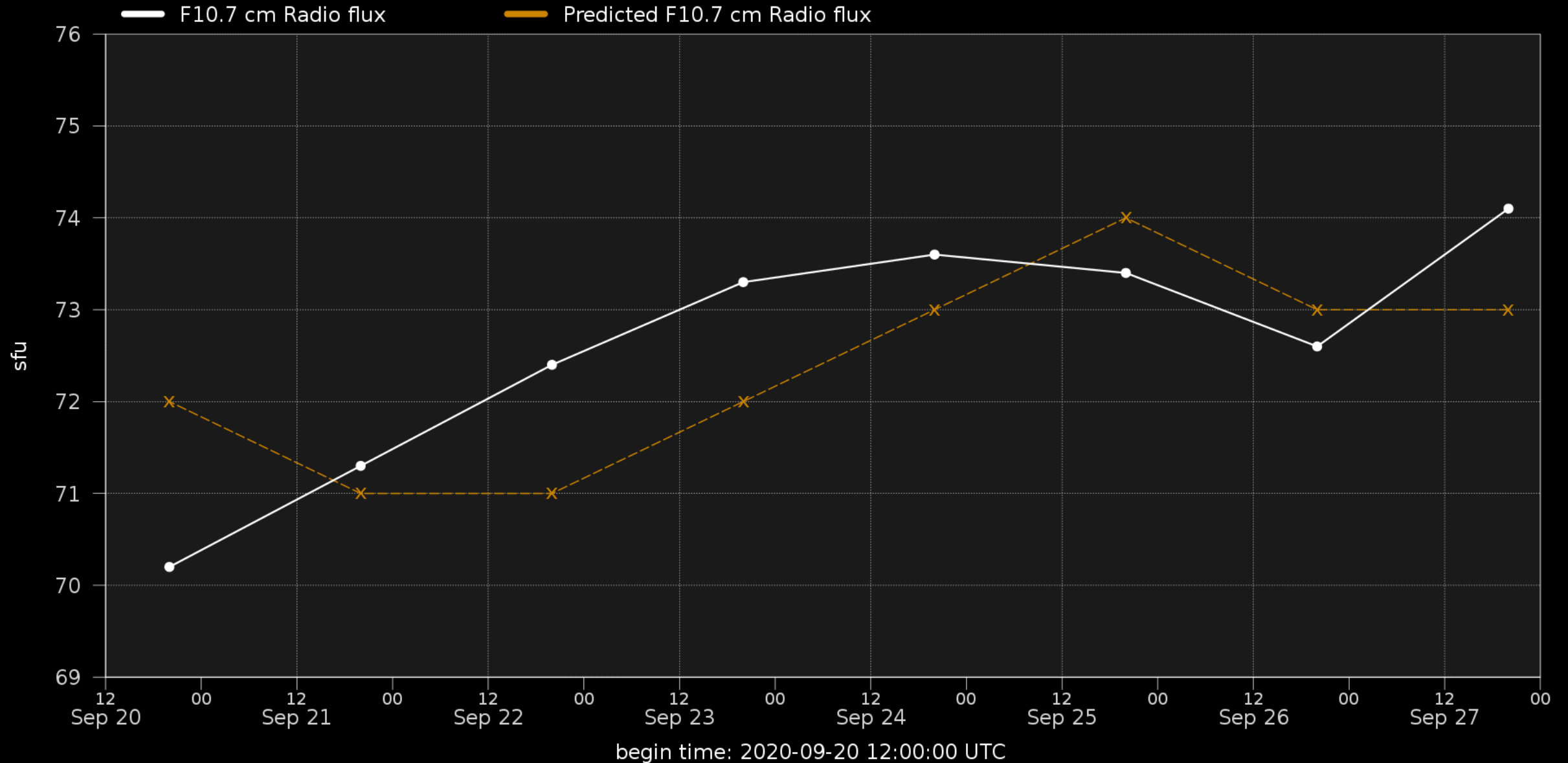


Kanzelhöhe Observatory
2020-09-27 11:13:07 UT

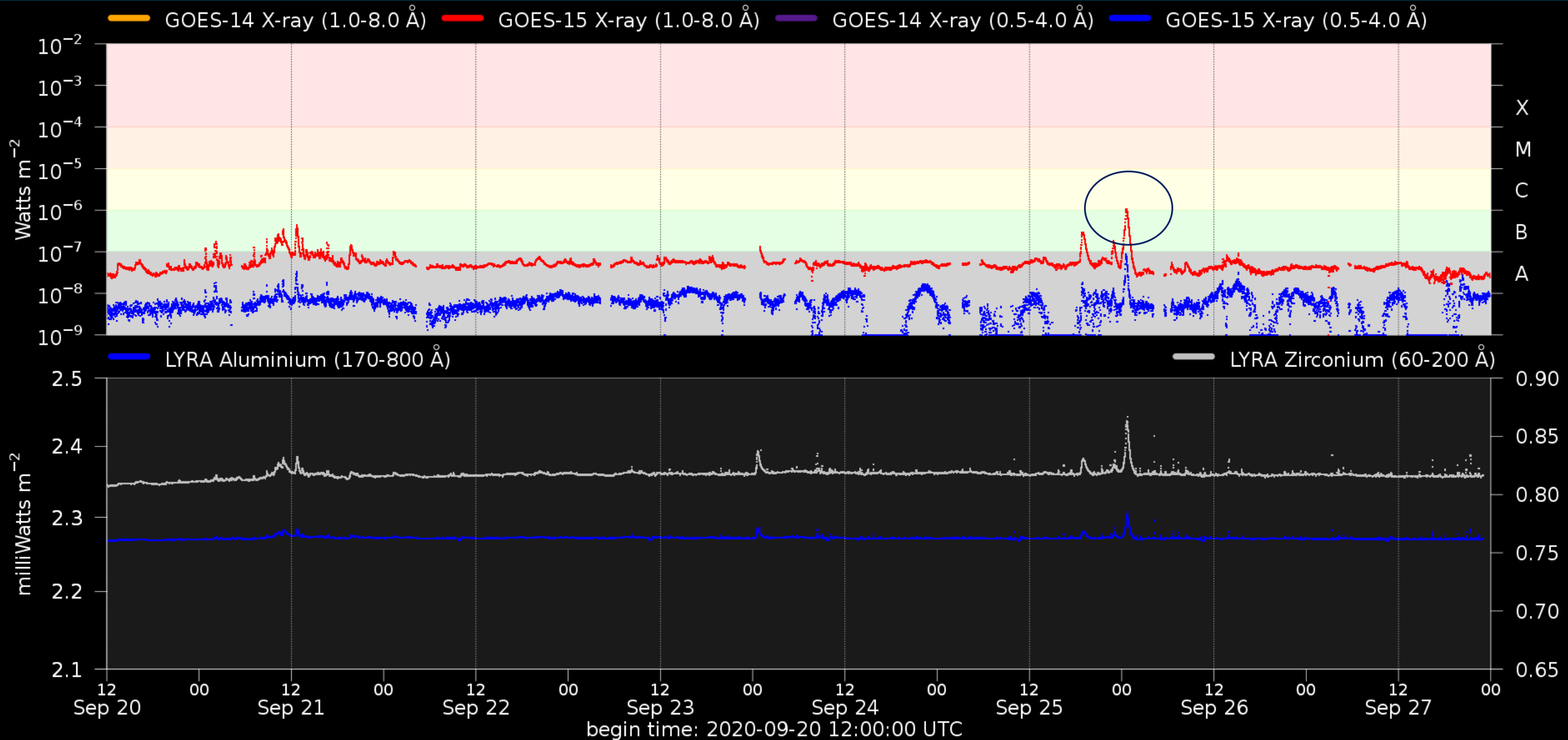
University of Graz
(Austria)



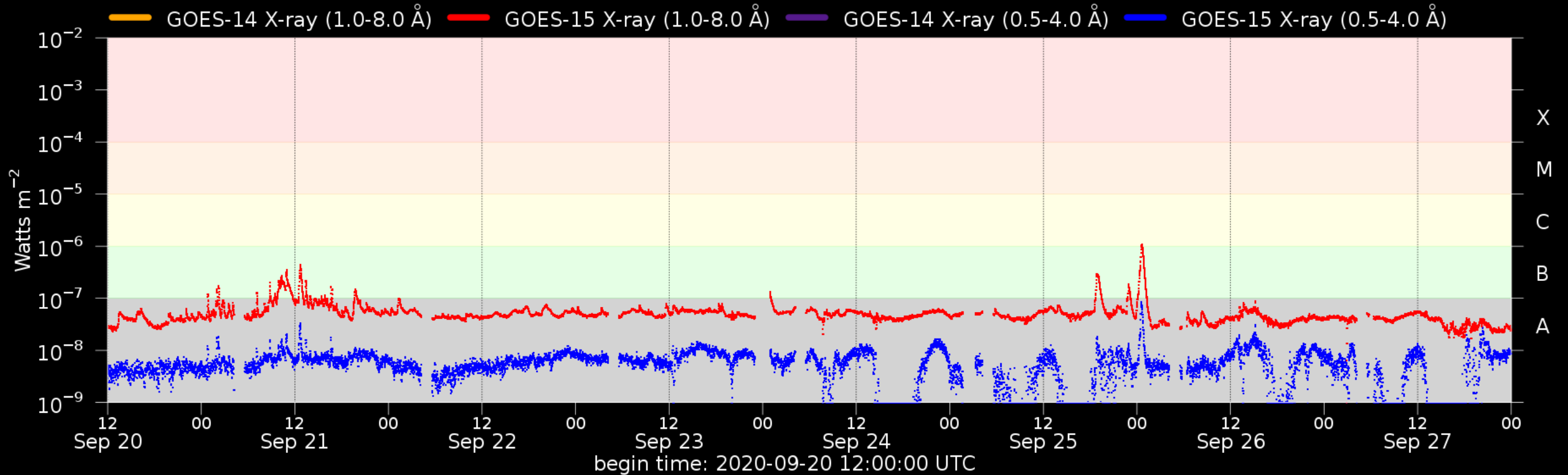
Solar F10.7cm radio flux



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	2020-09-20	2020-09-21	2020-09-22	2020-09-23	2020-09-24	2020-09-25	2020-09-26	2020-09-27
Probability	-- 05 01 01	-- 20 01 01	-- 10 01 01	-- 05 01 01	-- 07 01 01	-- 05 01 01	-- 10 01 01	-- 03 01 01
Observed	06 00 00 00	07 00 00 00	00 00 00 00	01 00 00 00	00 00 00 00	03 01 00 00	00 00 00 00	00 00 00 00

Coronal Mass Ejections

None

W

N

FF

04
00
05
12
14
22
15
16
13
10
06
04
00
21
18
15
12
09
06
03
00
21
18
16
12
09
06
03
00

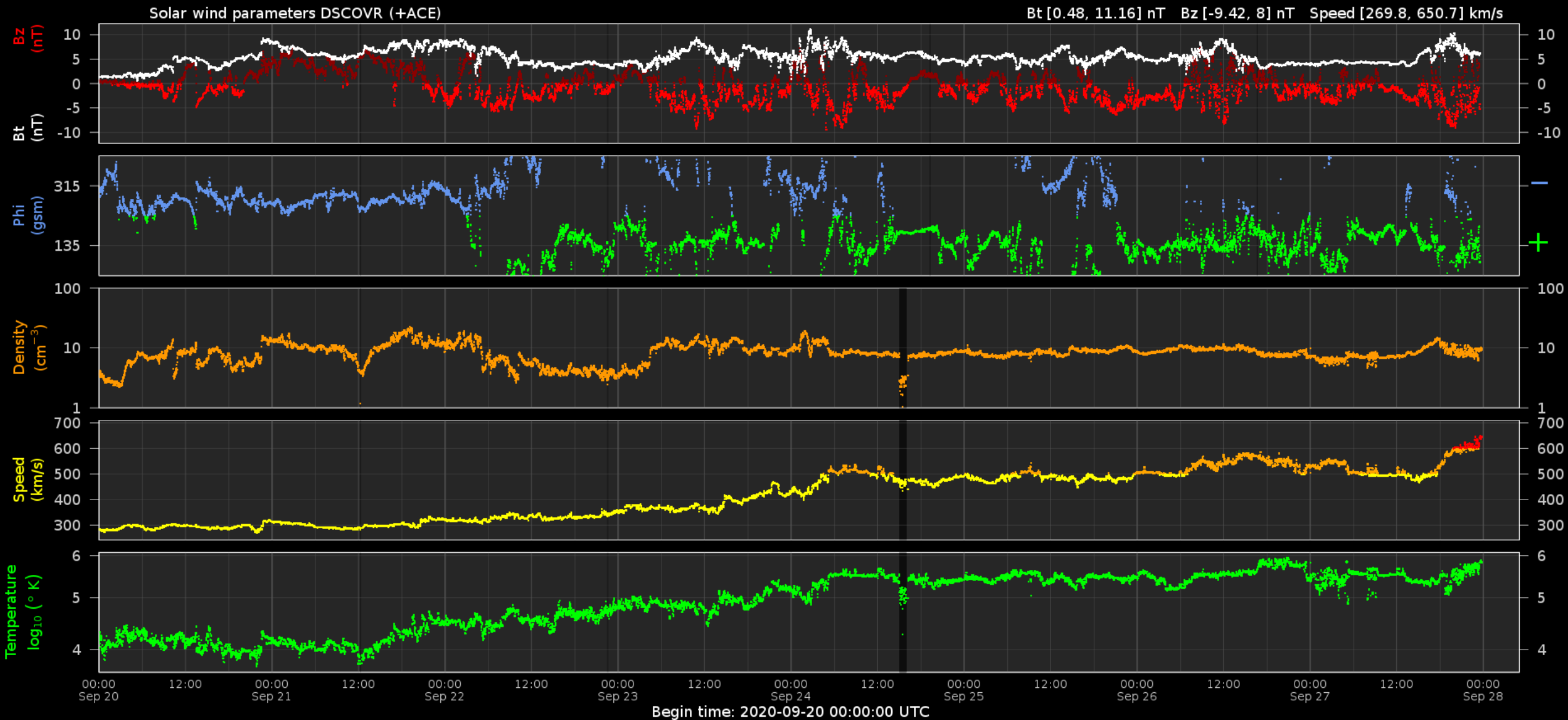
Solar Wind and Geomagnetic Activity



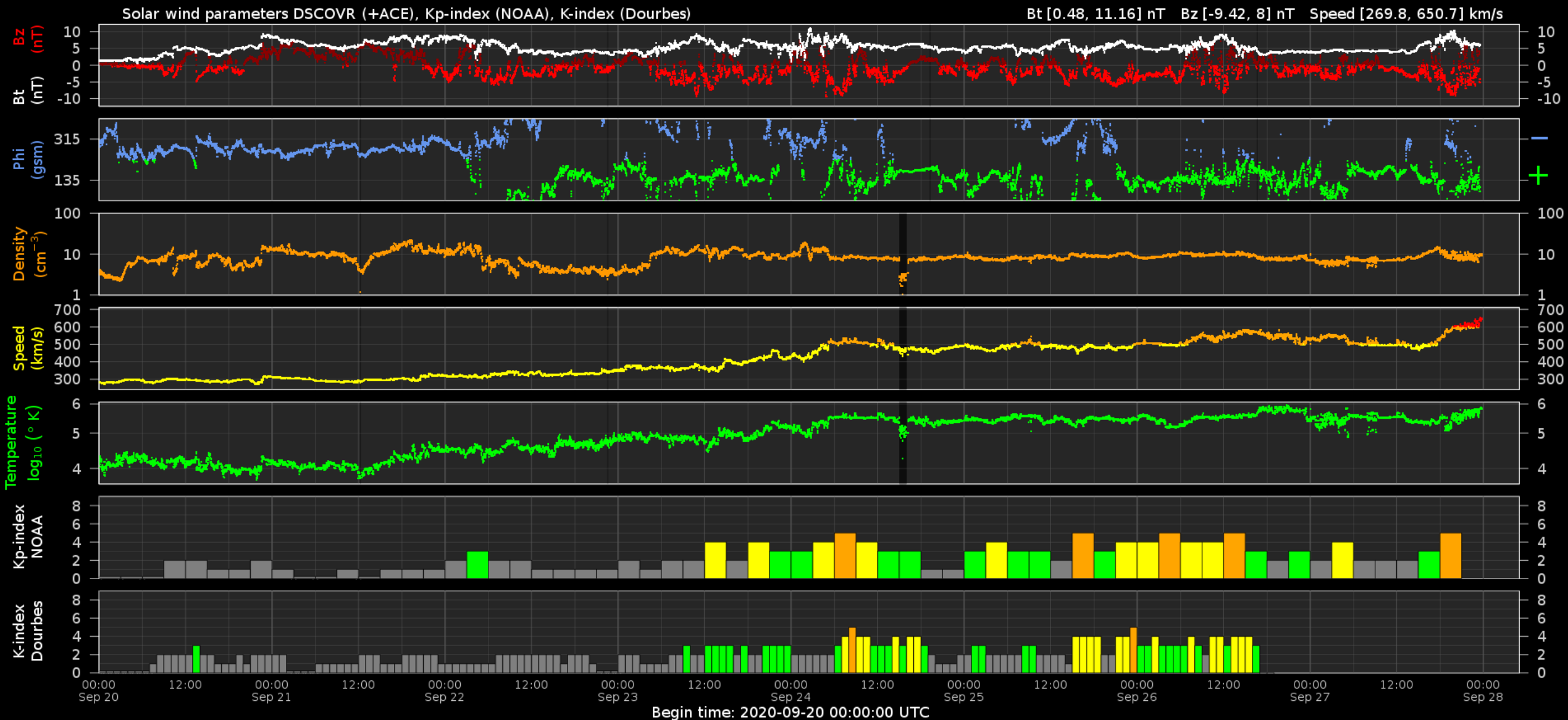
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

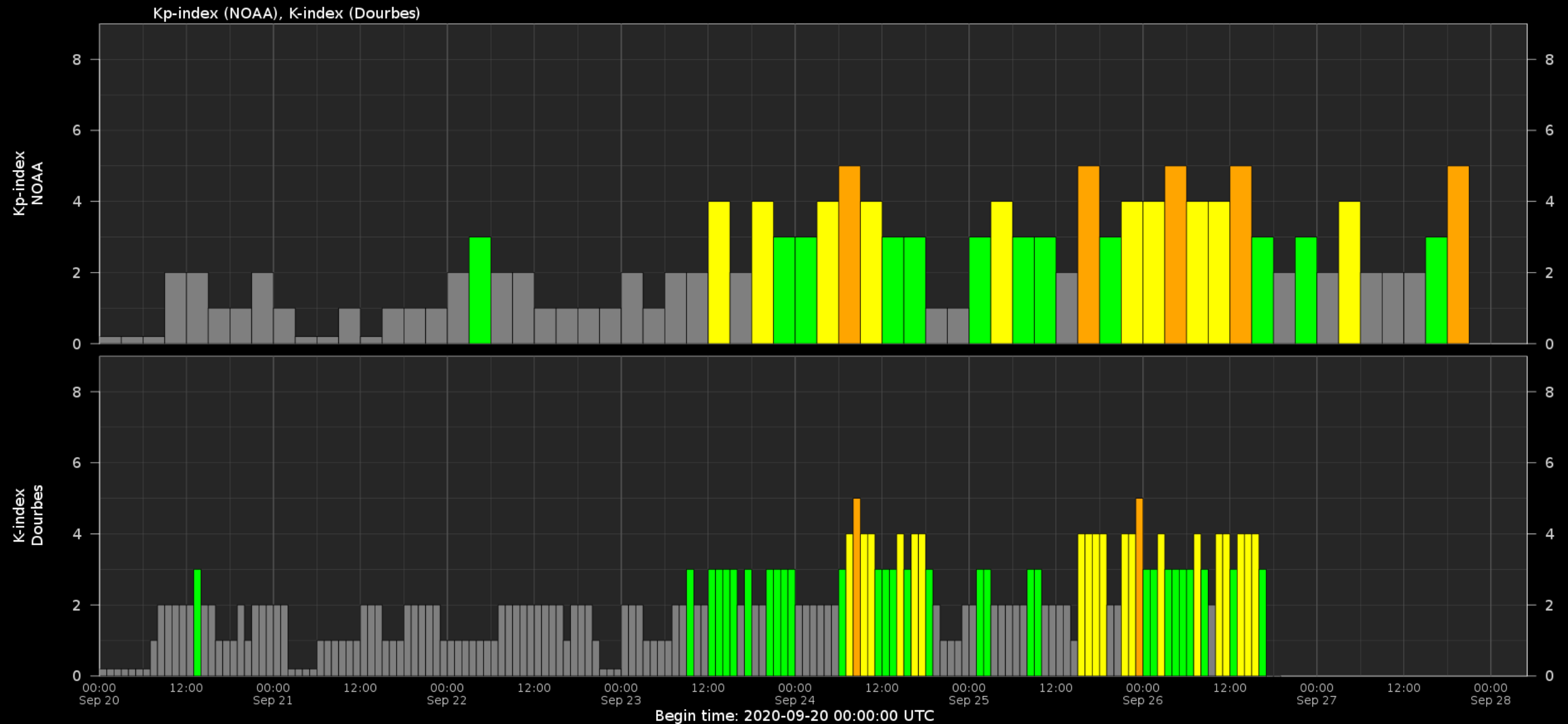
Solar wind parameters (DSCOVR data)



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



Geomagnetic activity (K-indexes)



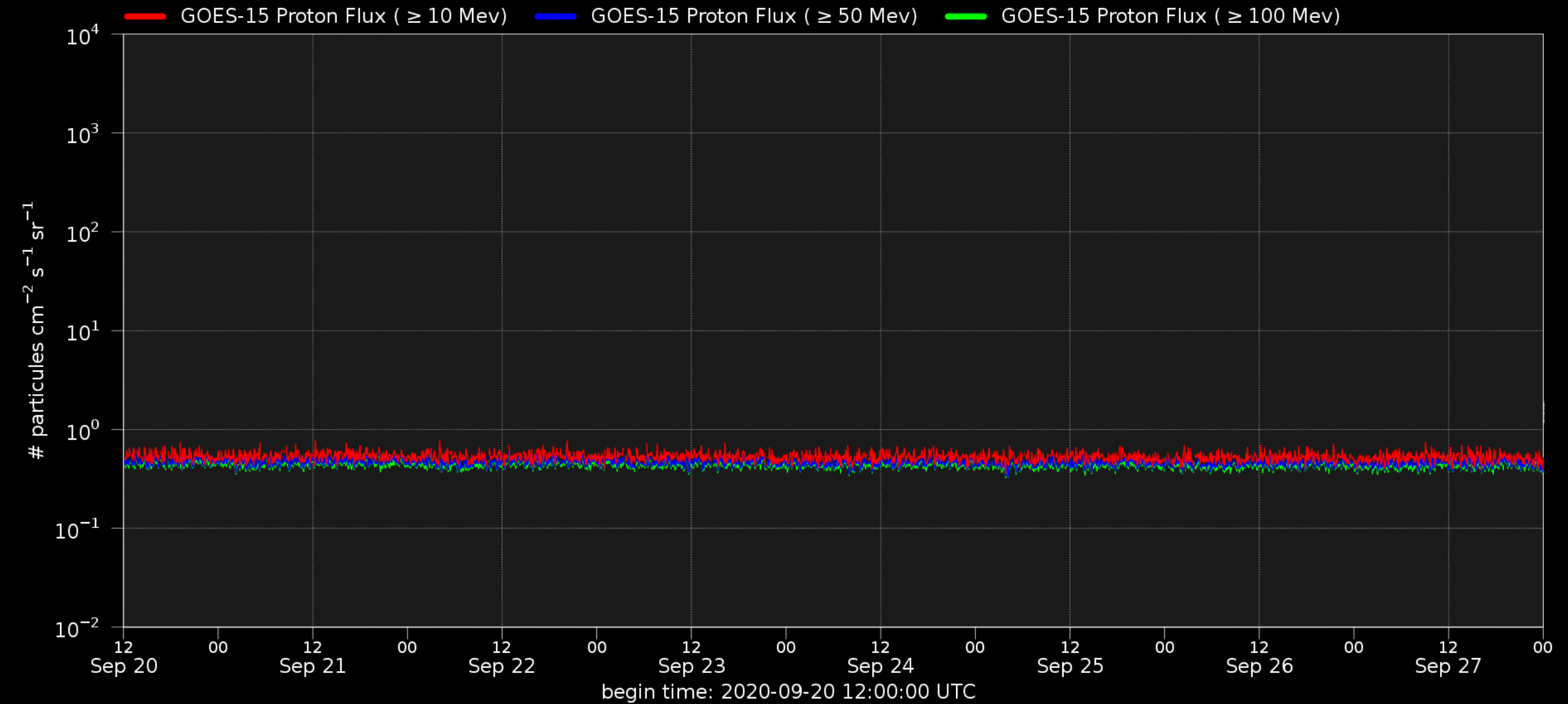
Solar Energetic Particles



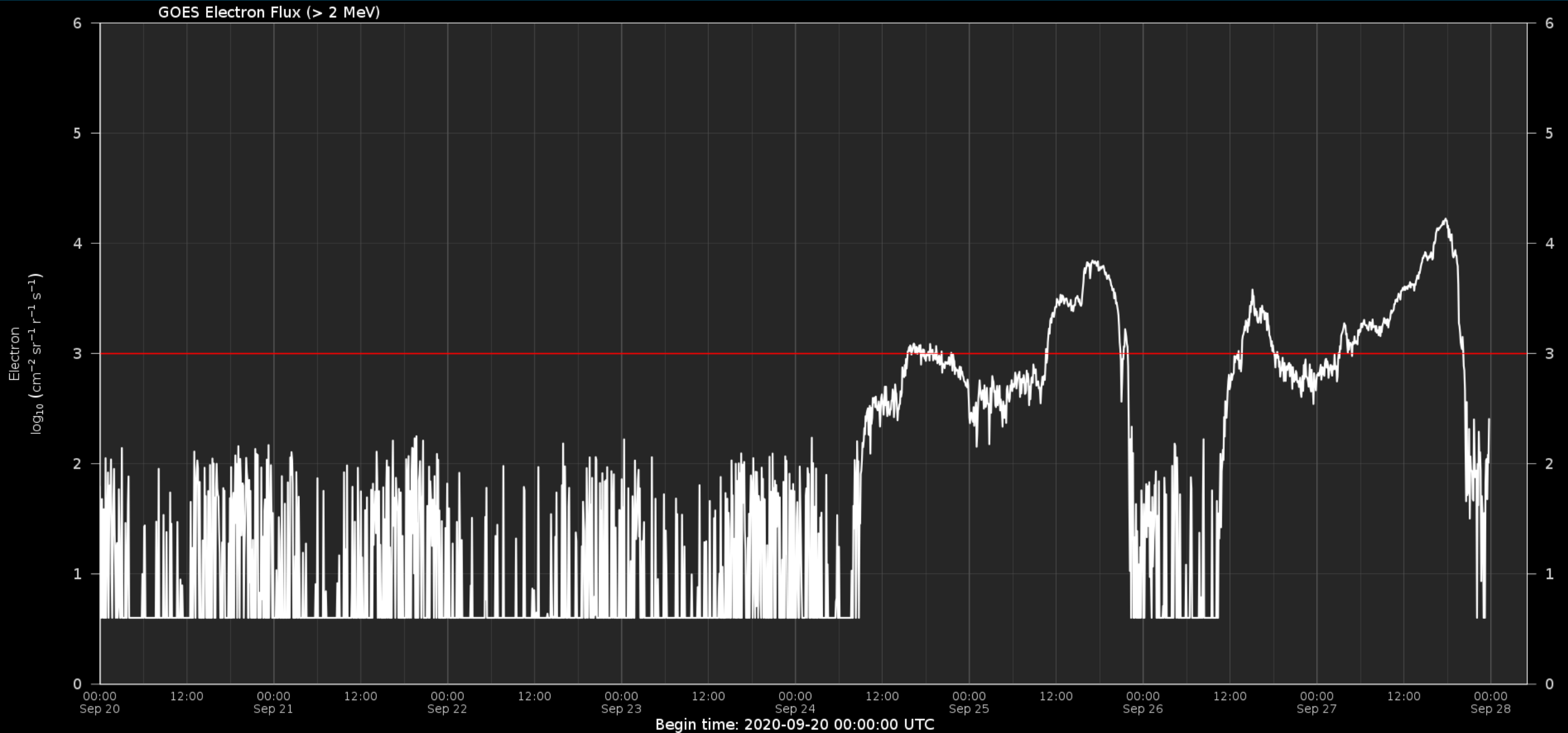
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

Solar proton flux



Solar electron flux



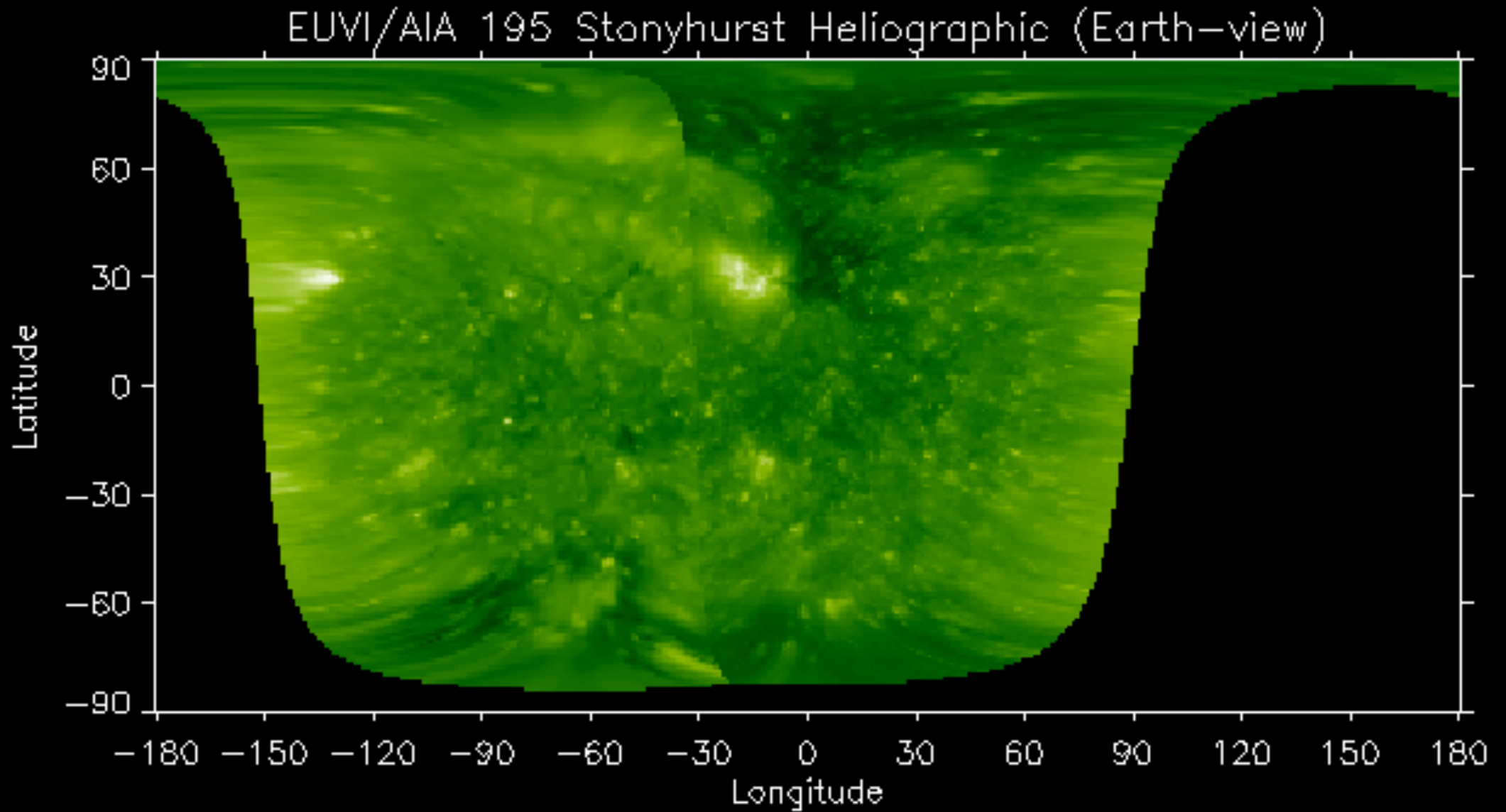
Outlook



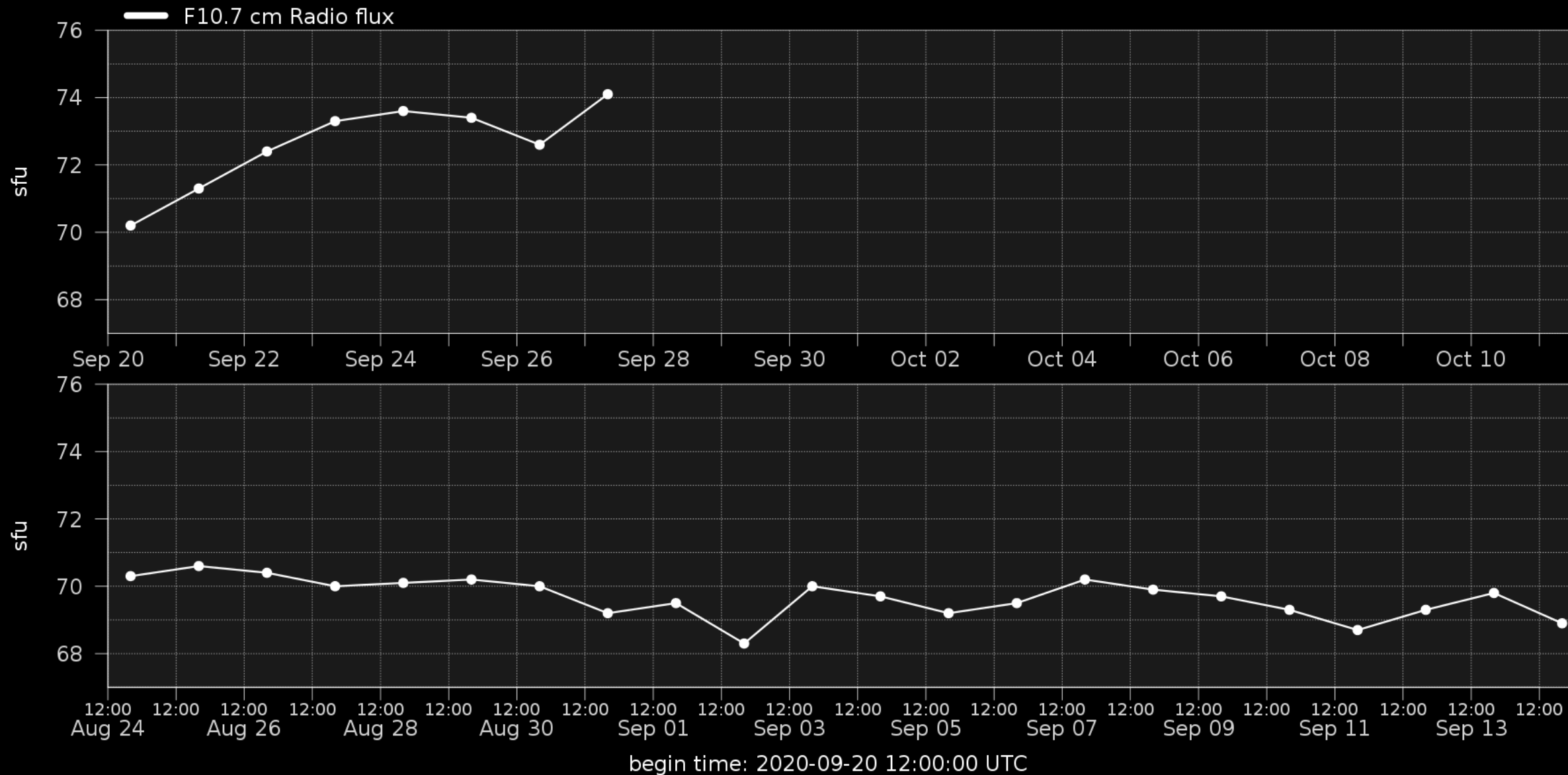
Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be

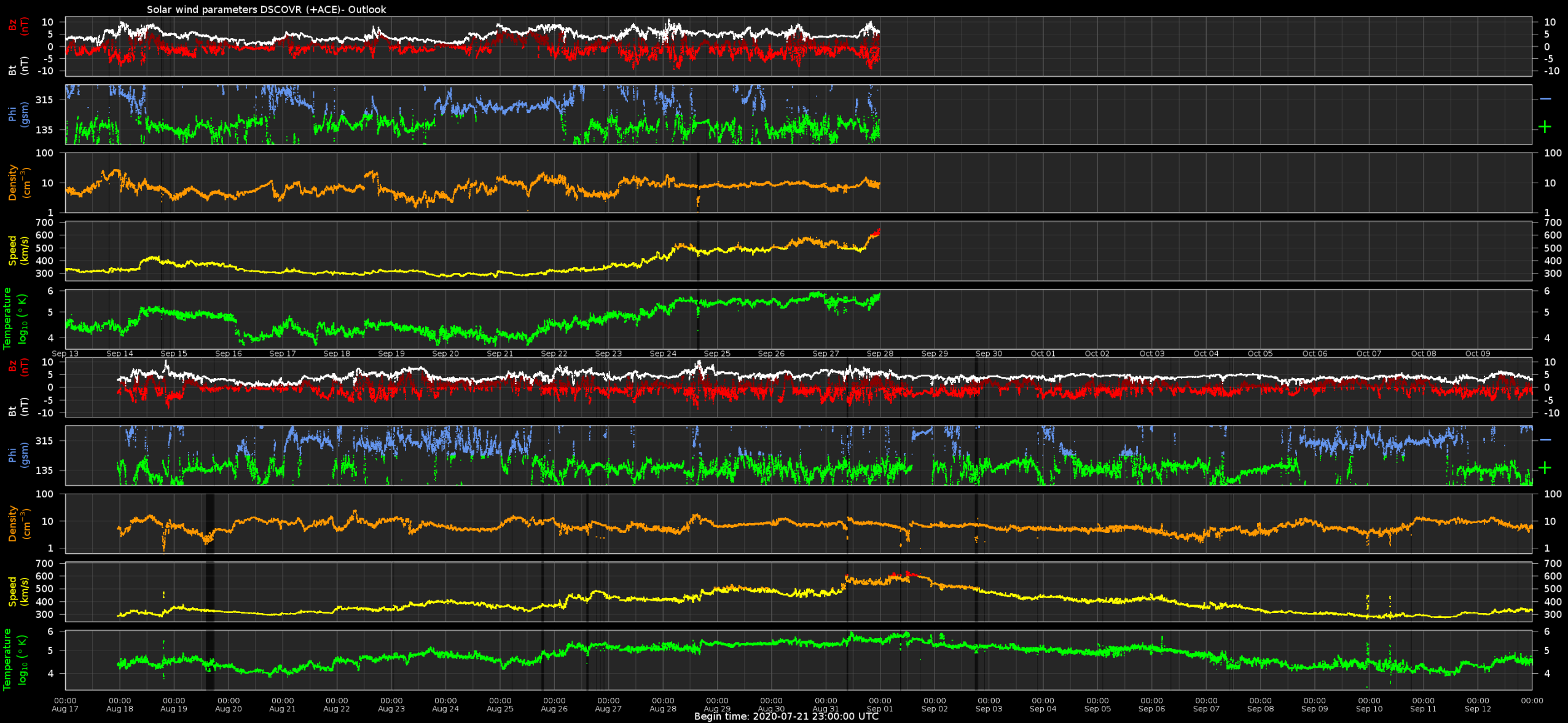
Outlook: Solar activity



Outlook: F10 flux



Outlook: Solar wind parameters



Outlook: Geomagnetic activity



SIDC Space Weather Briefing

See you at our next briefing!

Or visit us at www.sidc.be



Royal Observatory
of Belgium

Solar Influences
Data analysis Centre
www.sidc.be