

SIDC Space Weather Briefing

20 October 2019 - 27 October 2019

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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 2019-10-20 12:00 UT to 2019-10-27 12:00 UT

Active regions	No regions
Flaring	# B-class flare: 0 # C-class flare: 0 # M-class flare: 0 # X-class flare: 0
Filaments	A filament eruption from North West quadrant
CMEs	One slow Earth-directed CME
Proton Events	quiet

Solar wind and geomagnetic conditions from 2019-10-20 12:00 UT to 2019-10-27 12:00 UT

Coronal Holes	One large recurrent positive polarity CH; a recurrent negative polarity CH
ICME	None observed
SW Conditions	A High speed stream from the CH+ reaching close to 700 km/s
K-indices	max K-index (Dourbes): 5 max Kp-index (NOAA): 6

All Quiet Alert: Not quiet

Solar Activity

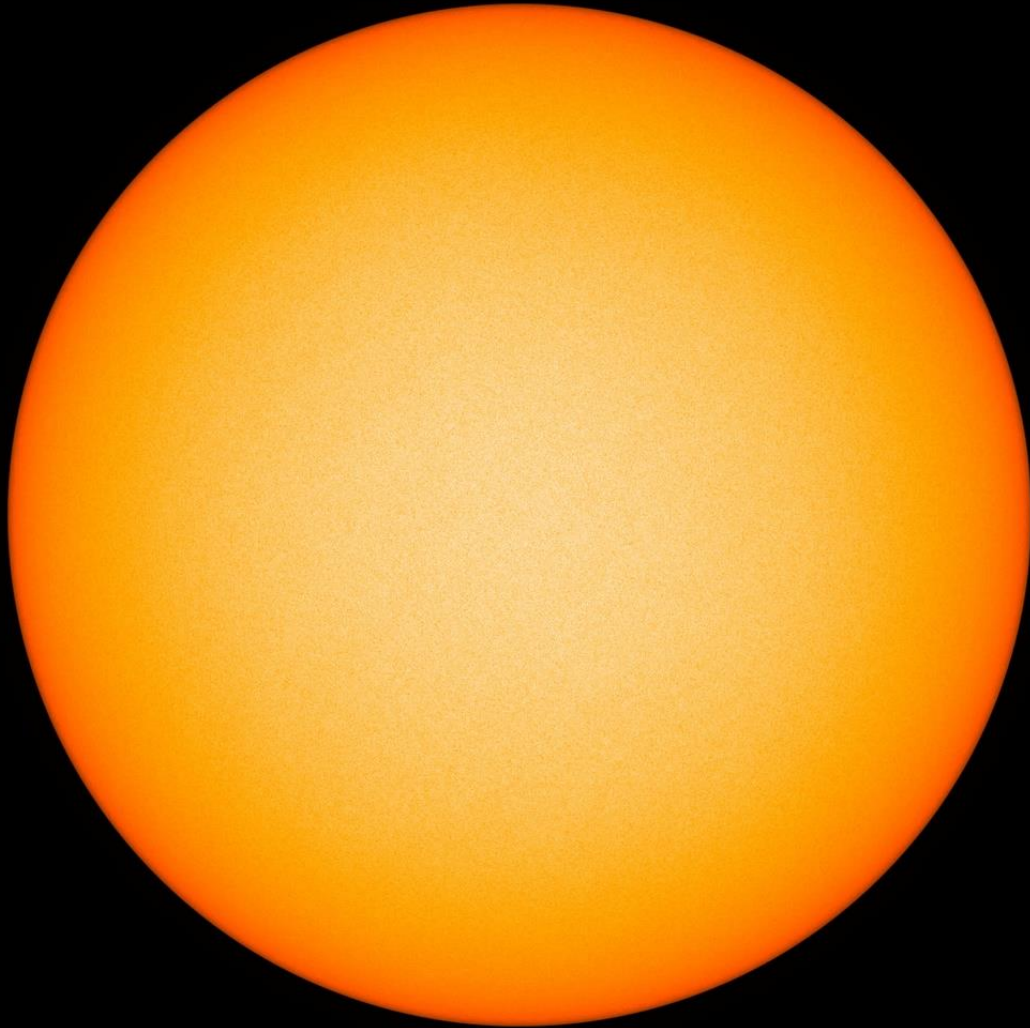


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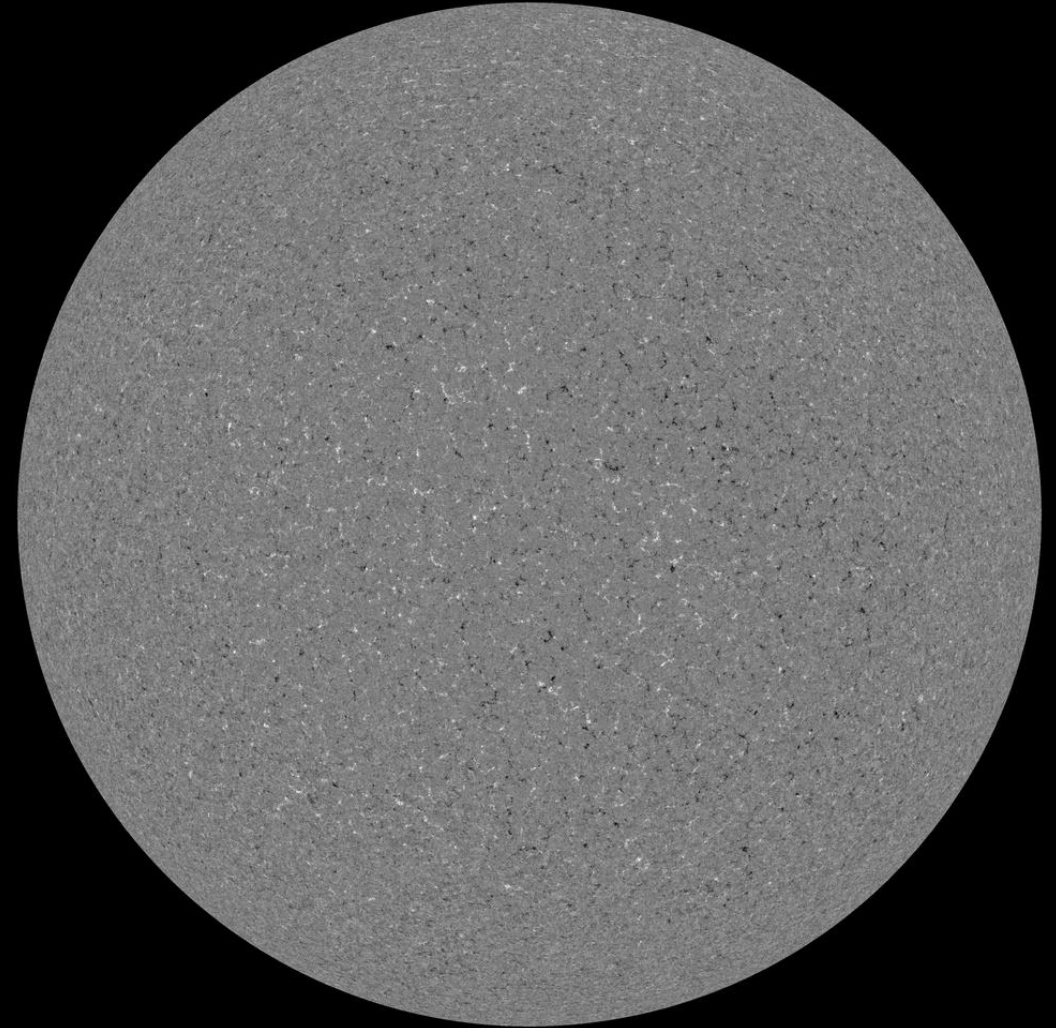
Solar active region - start of the week

SDO/HMI White Light 2019-10-20



SDO/HMI Quick-Look Continuum: 20191020_120000

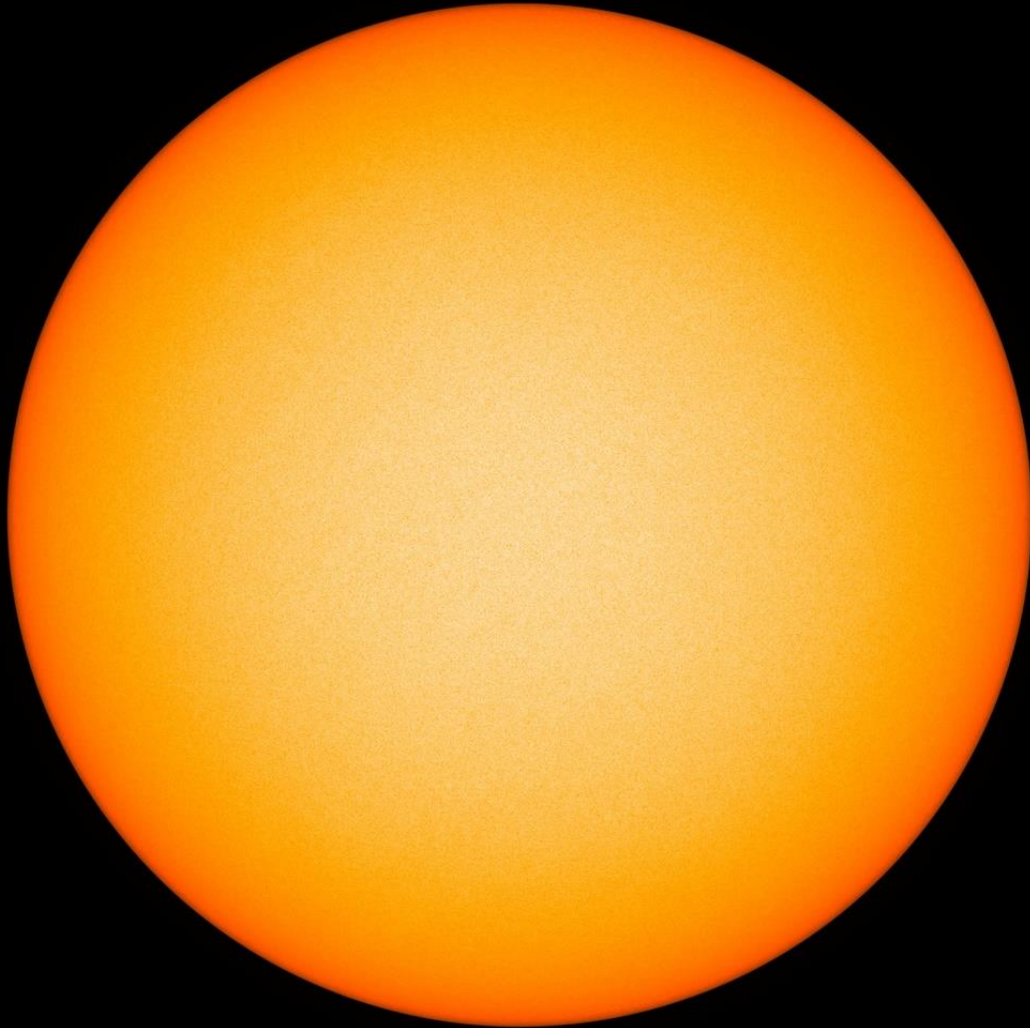
SDO/HMI Magnetogram 2019-10-20



SDO/HMI Quick-Look Magnetogram: 20191020_114500

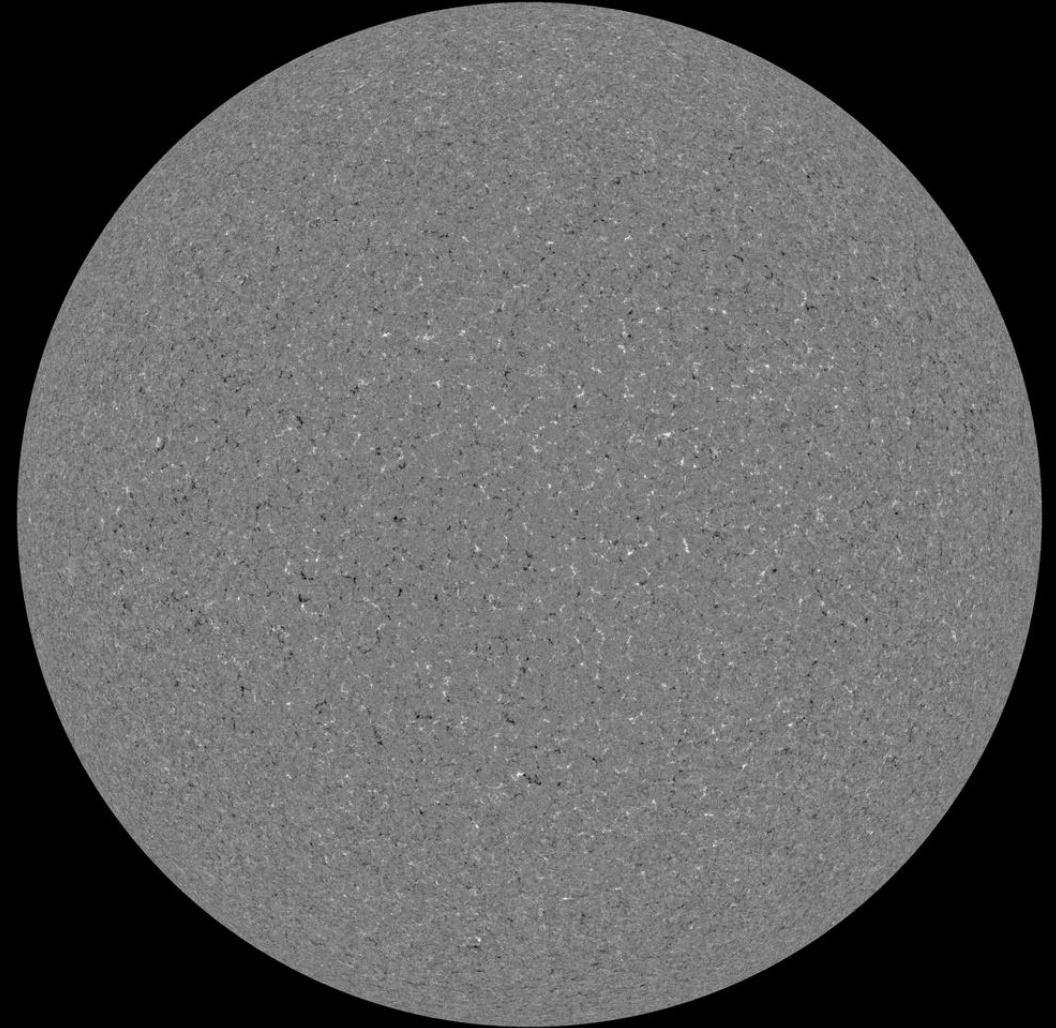
Solar active region - middle of the week

SDO/HMI White Light 2019-10-23



SDO/HMI Quick-Look Continuum: 20191023_120000

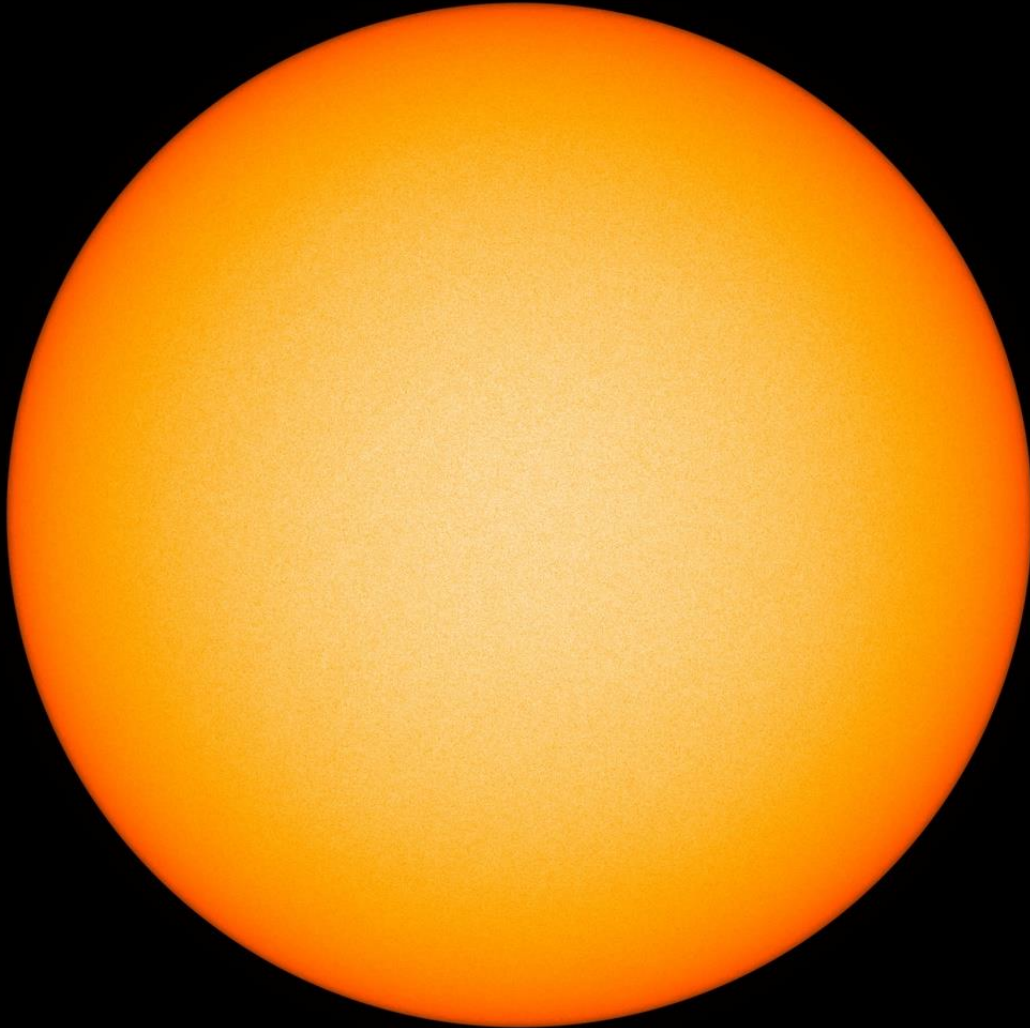
SDO/HMI Magnetogram 2019-10-23



SDO/HMI Quick-Look Magnetogram: 20191023_114500

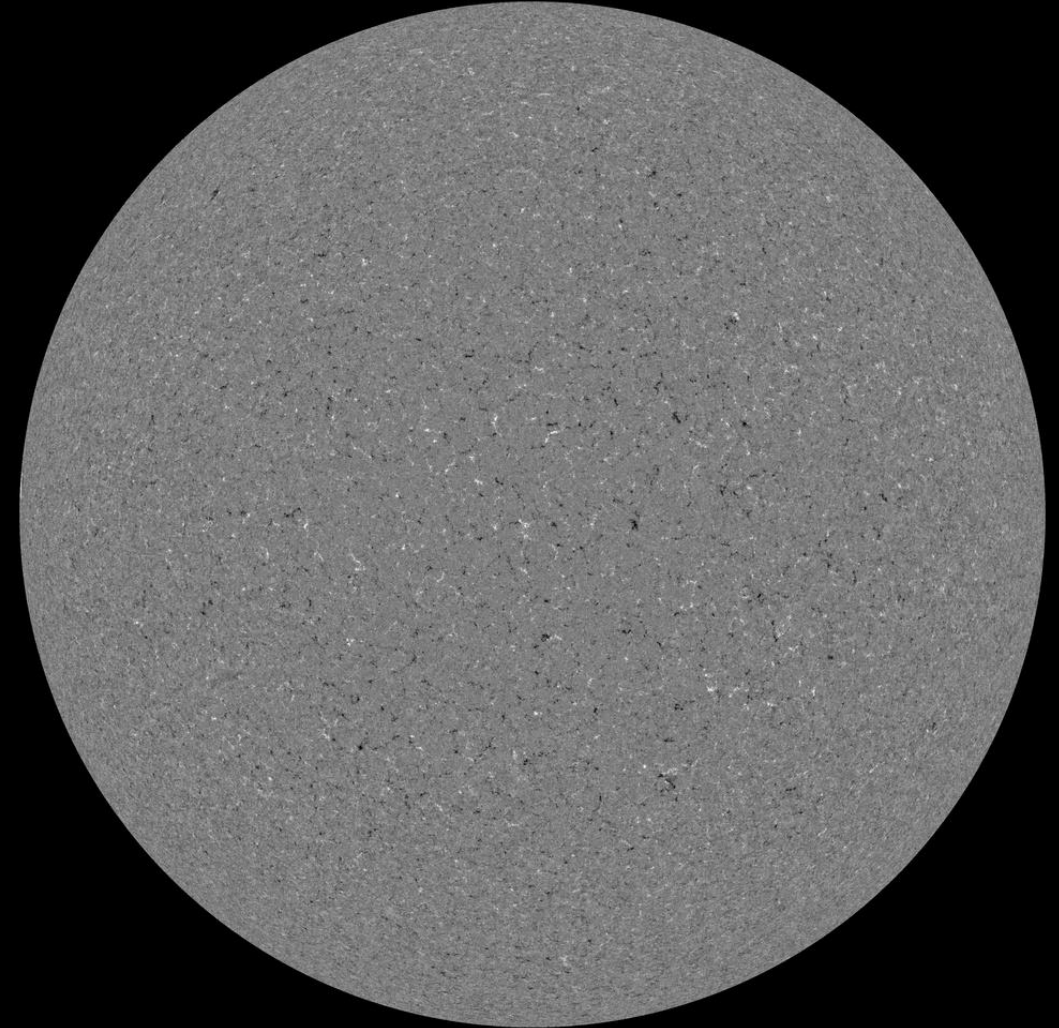
Solar active region - end of the week

SDO/HMI White Light 2019-10-27



SDO/HMI Quick-Look Continuum: 20191027_114500

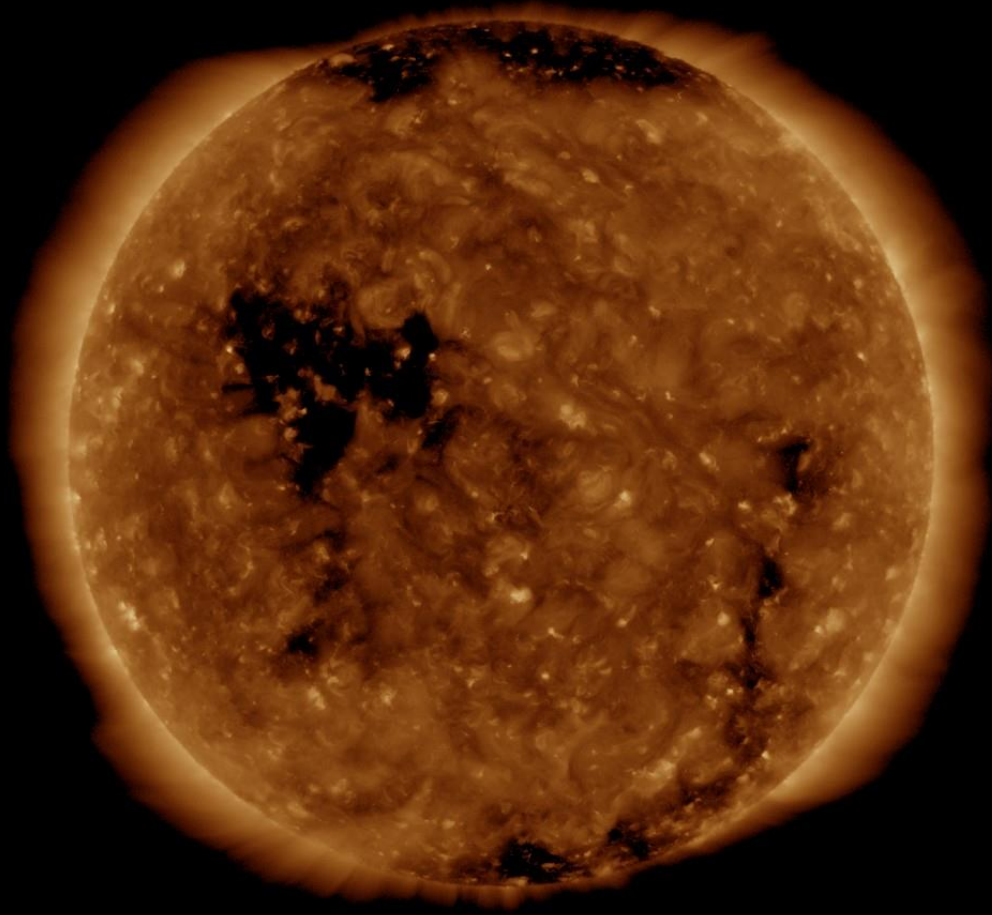
SDO/HMI Magnetogram 2019-10-27



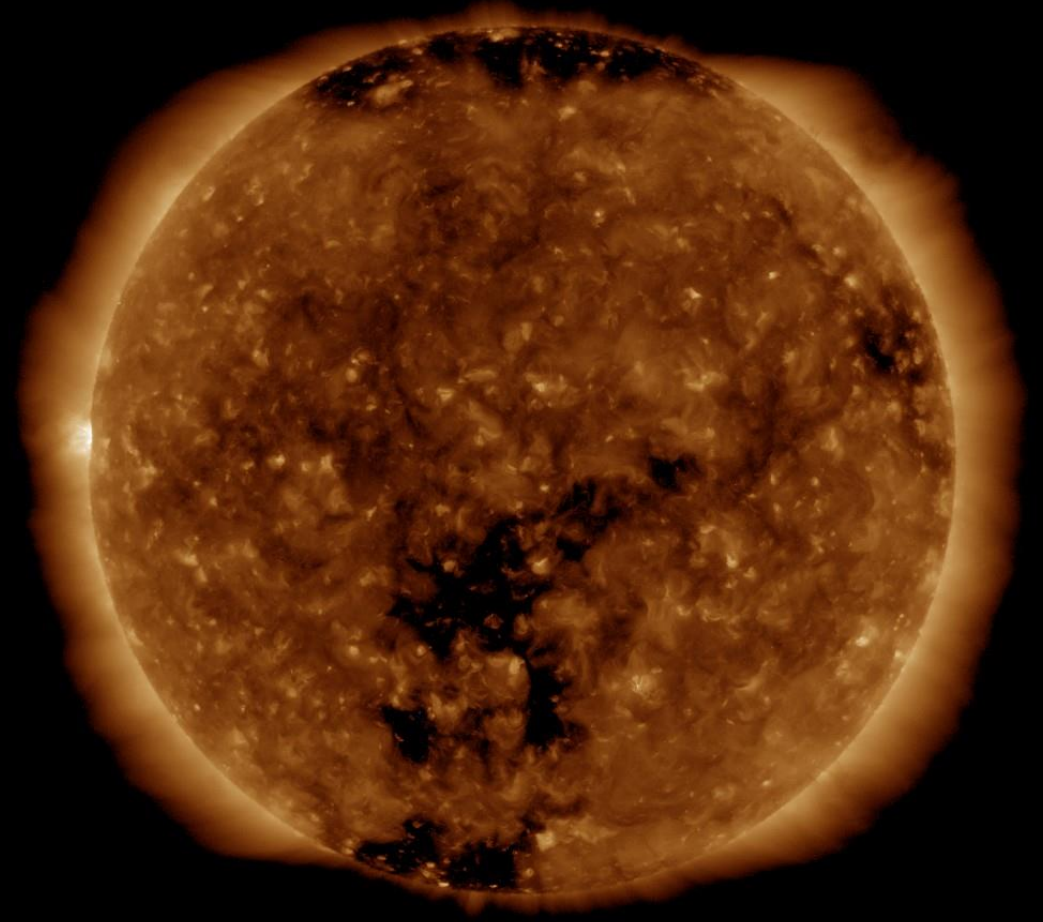
SDO/HMI Quick-Look Magnetogram: 20191027_114500

Solar active region & Coronal hole

SDO/AIA 19.3 nm 2019-10-20



SDO/AIA 19.3 nm 2019-10-27

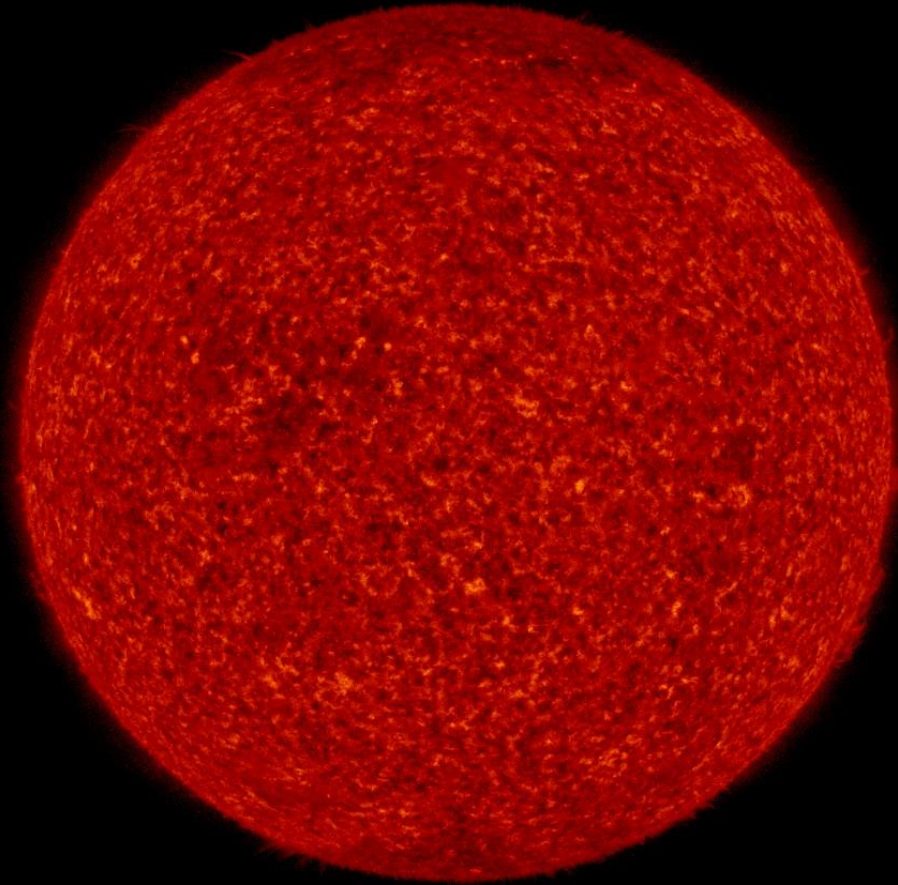


SDO/AIA 193 2019-10-20 12:11:29 UT

SDO/AIA 193 2019-10-27 12:10:53 UT

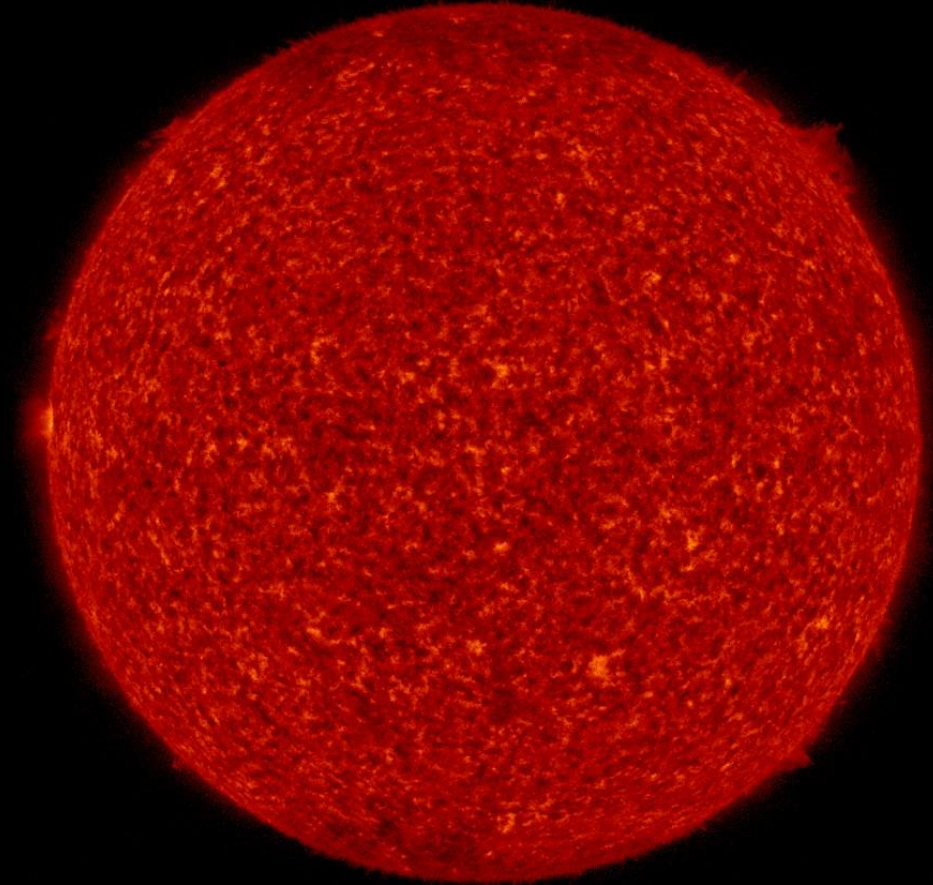
Solar active region & Filament

SDO/AIA 30.4 nm 2019-10-20



SDO/AIA 304 2019-10-20 12:13:18 UT

SDO/AIA 30.4 nm 2019-10-27



SDO/AIA 304 2019-10-27 12:14:06 UT

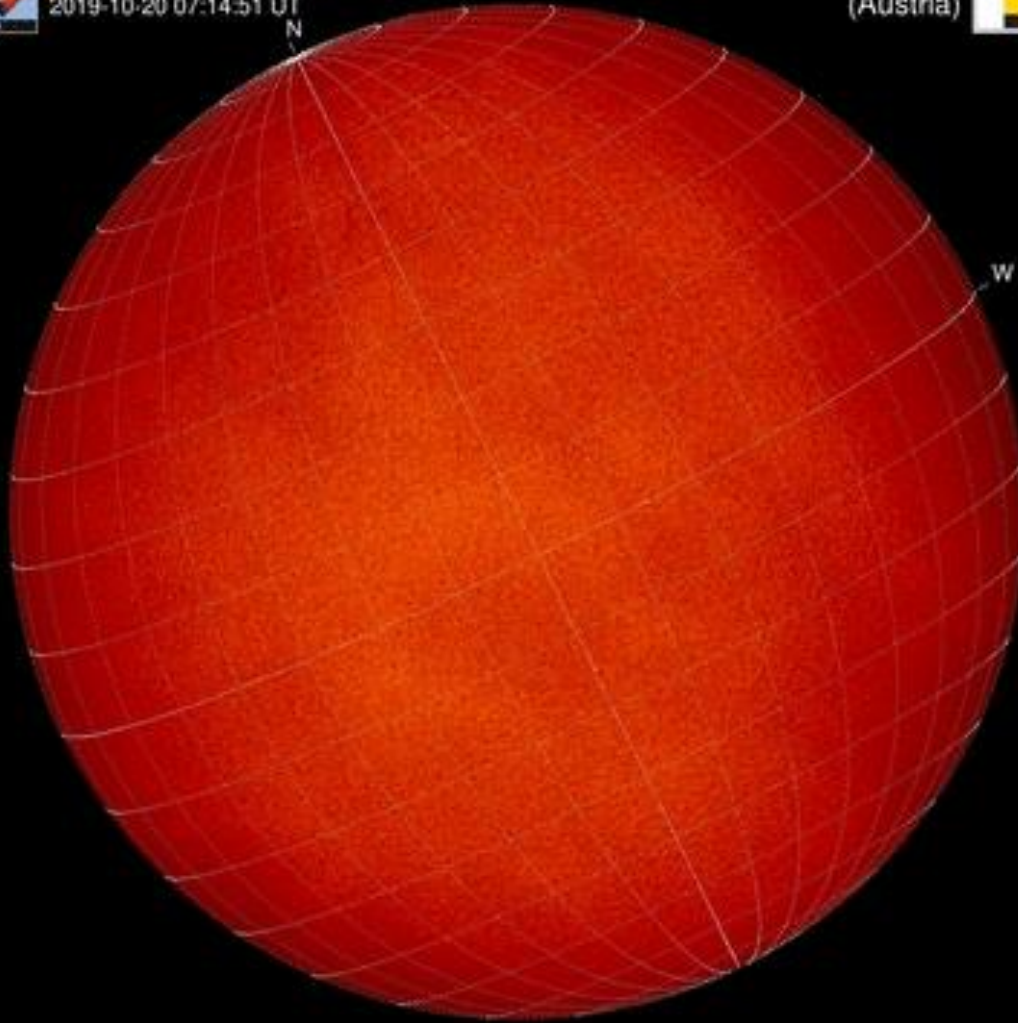
Filament & Filament eruption

H-alpha 2019-10-20



Kanzelhöhe Observatory
2019-10-20 07:14:51 UT

University of Graz
(Austria)

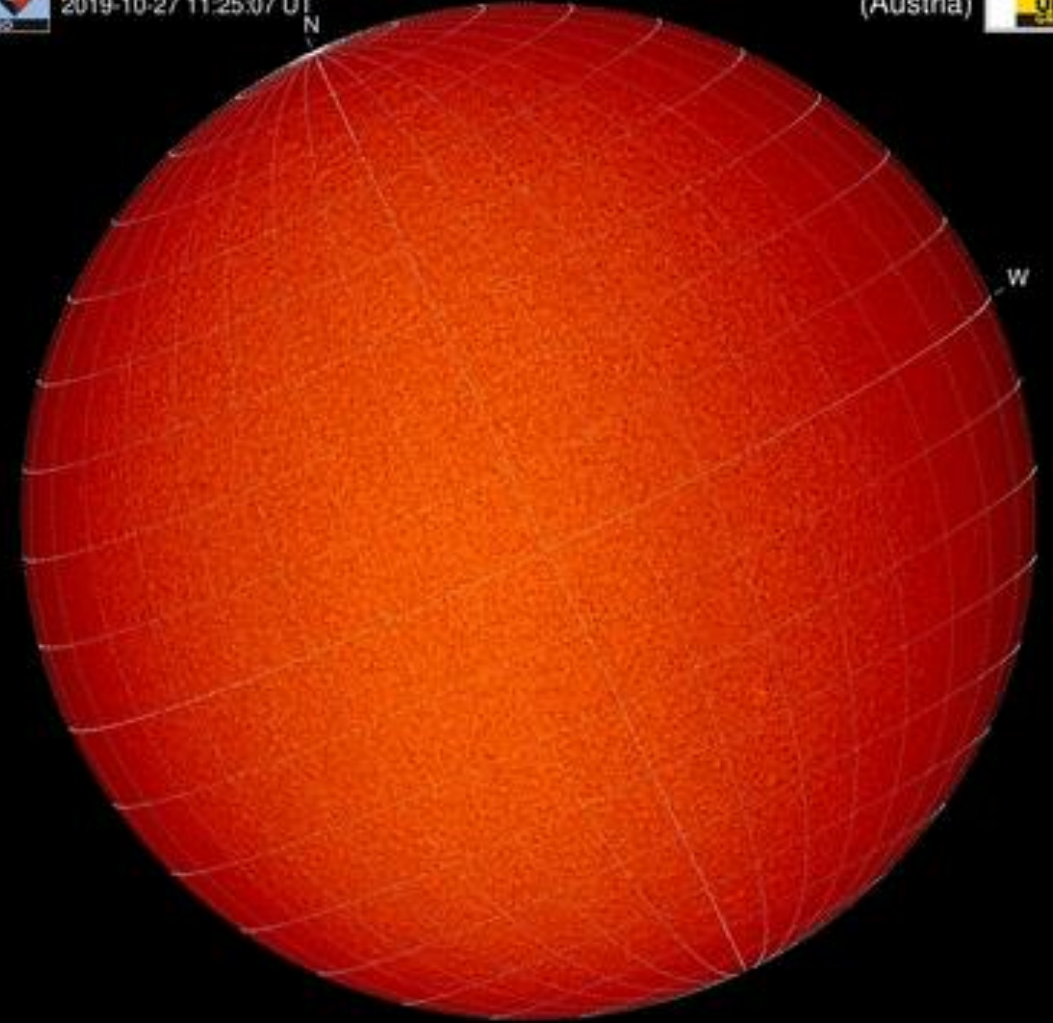


H-alpha 2019-10-27

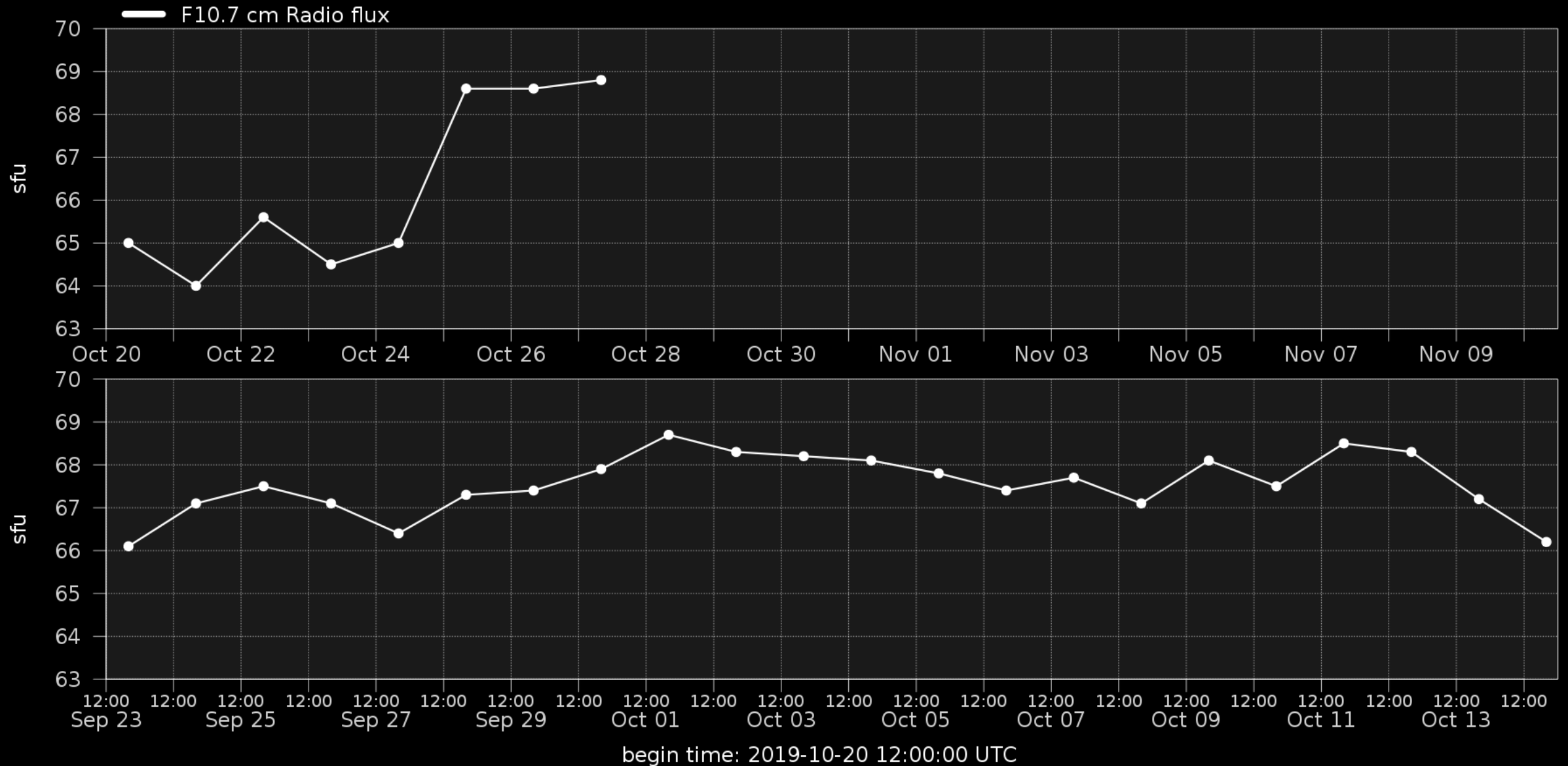


Kanzelhöhe Observatory
2019-10-27 11:25:07 UT

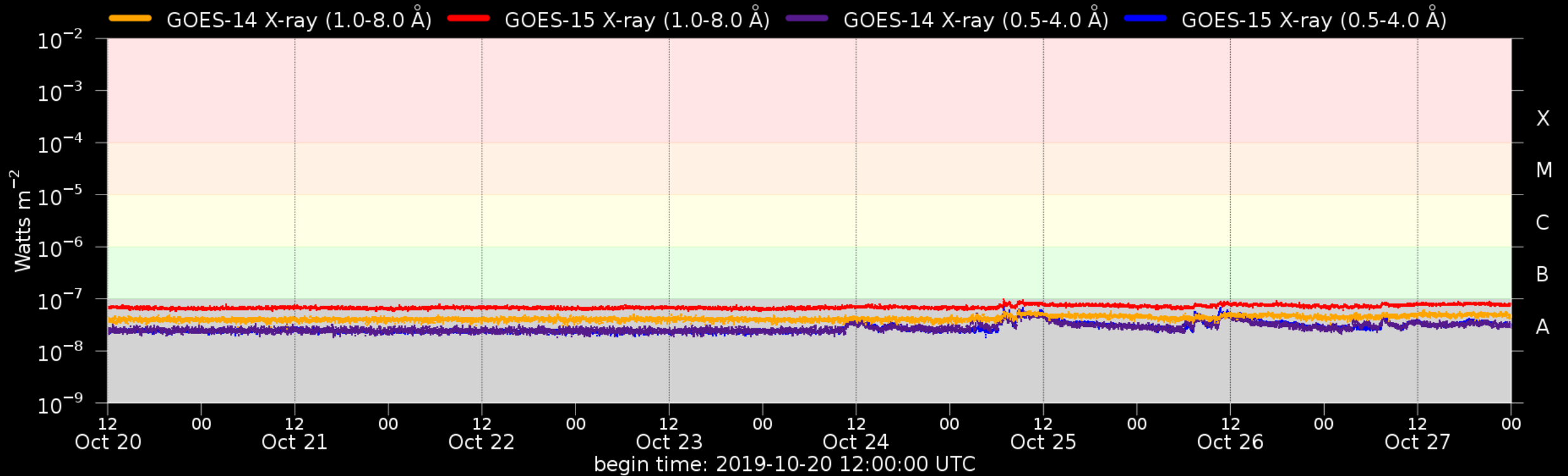
University of Graz
(Austria)



Solar F10.7cm radio flux



Flaring activity

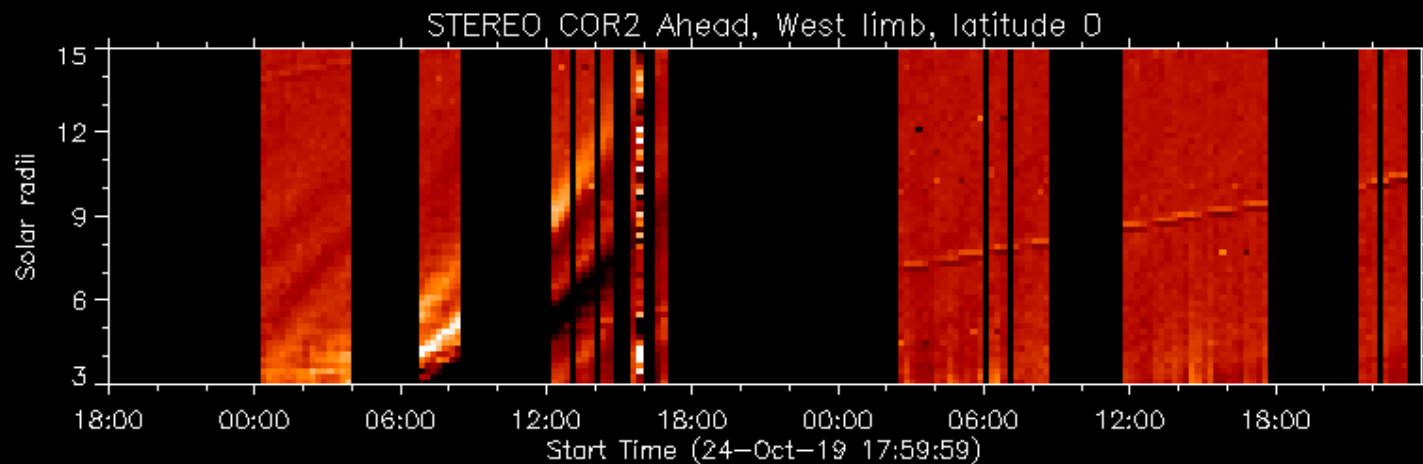


Probabilities (%) and occurrences (#) of B/C/M/X-flares issued at 12:30 and over the next 24h:

Issue date	2019-10-20	2019-10-21	2019-10-22	2019-10-23	2019-10-24	2019-10-25	2019-10-26	2019-10-27
Probability	--- 01 01 01	--- 01 01 01	--- 01 01 01	--- 01 01 01	--- 01 01 01	--- 01 01 01	--- 01 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	00 00 00 00	00 00 00 00

Coronal Mass Ejection

- October 25: after midnight: filament eruption NW quadrant: small West directed CME
No impact expected
- October 25:
9:42UT slow faint CME front in SoHO/LASCO C2
6:54UT clear Westbound CME in STEREO A/COR2 (200-300 km/s)
Expected at Earth around midnight October 29/30



S

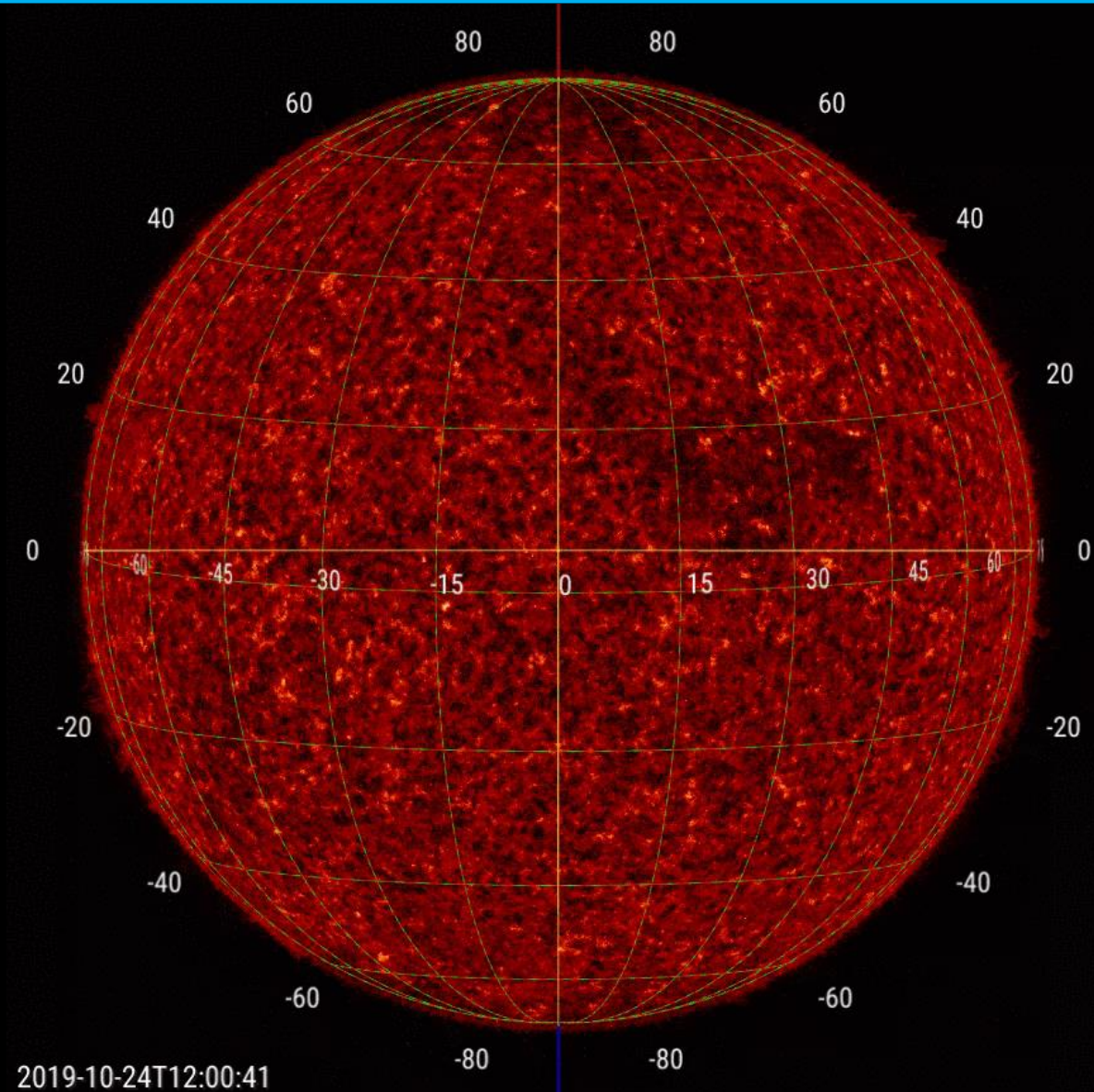
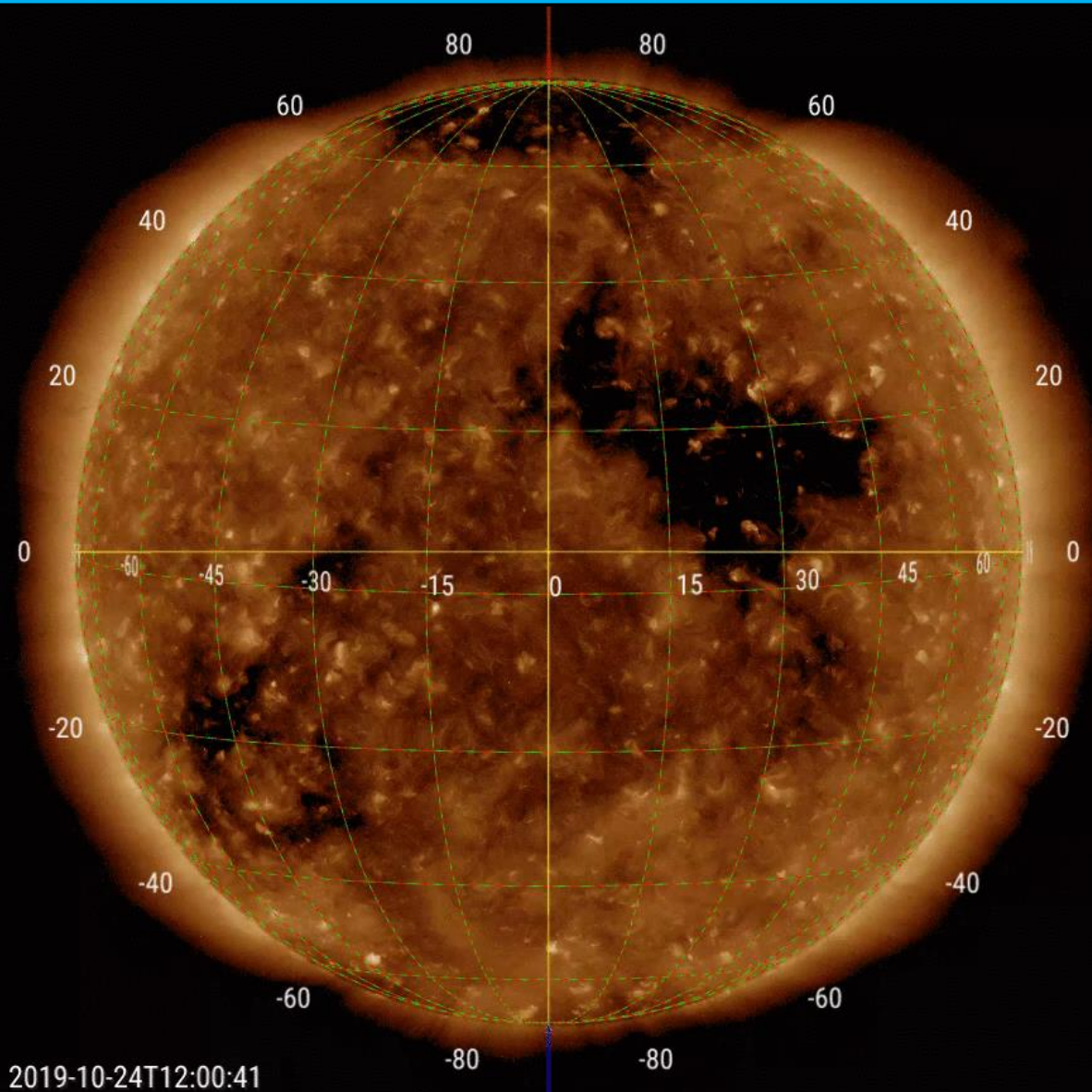
W

N

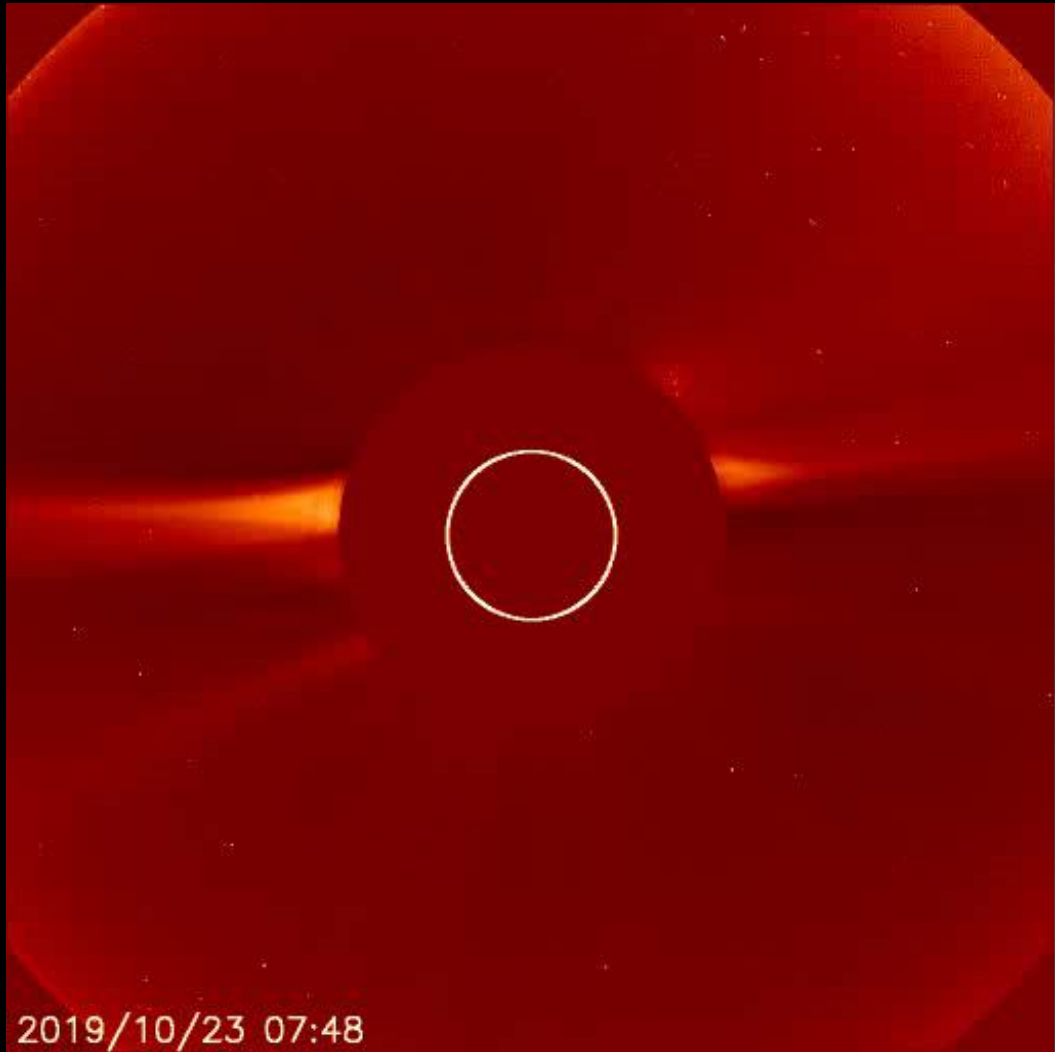
E

01:36 10/27
20:36 10/26
17:36 10/26
14:24 10/26
11:12 10/26
08:00 10/26
04:36 10/26
01:42 10/26
22:00 10/25
19:12 10/25
16:24 10/25
13:25 10/25
10:12 10/25
19:48 10/24
17:12 10/24
14:06 10/24
11:00 10/24
07:48 10/24
04:48 10/24
01:48 10/24
22:00 10/23
18:36 10/23
15:36 10/23
12:24 10/23
09:36 10/23
07:00 10/23
03:48 10/23
00:12 10/23
20:48 10/22
18:12 10/22
15:24 10/22
11:48 10/22
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21:12 10/21
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08:48 10/21
06:00 10/21
03:24 10/21
00:00 10/21

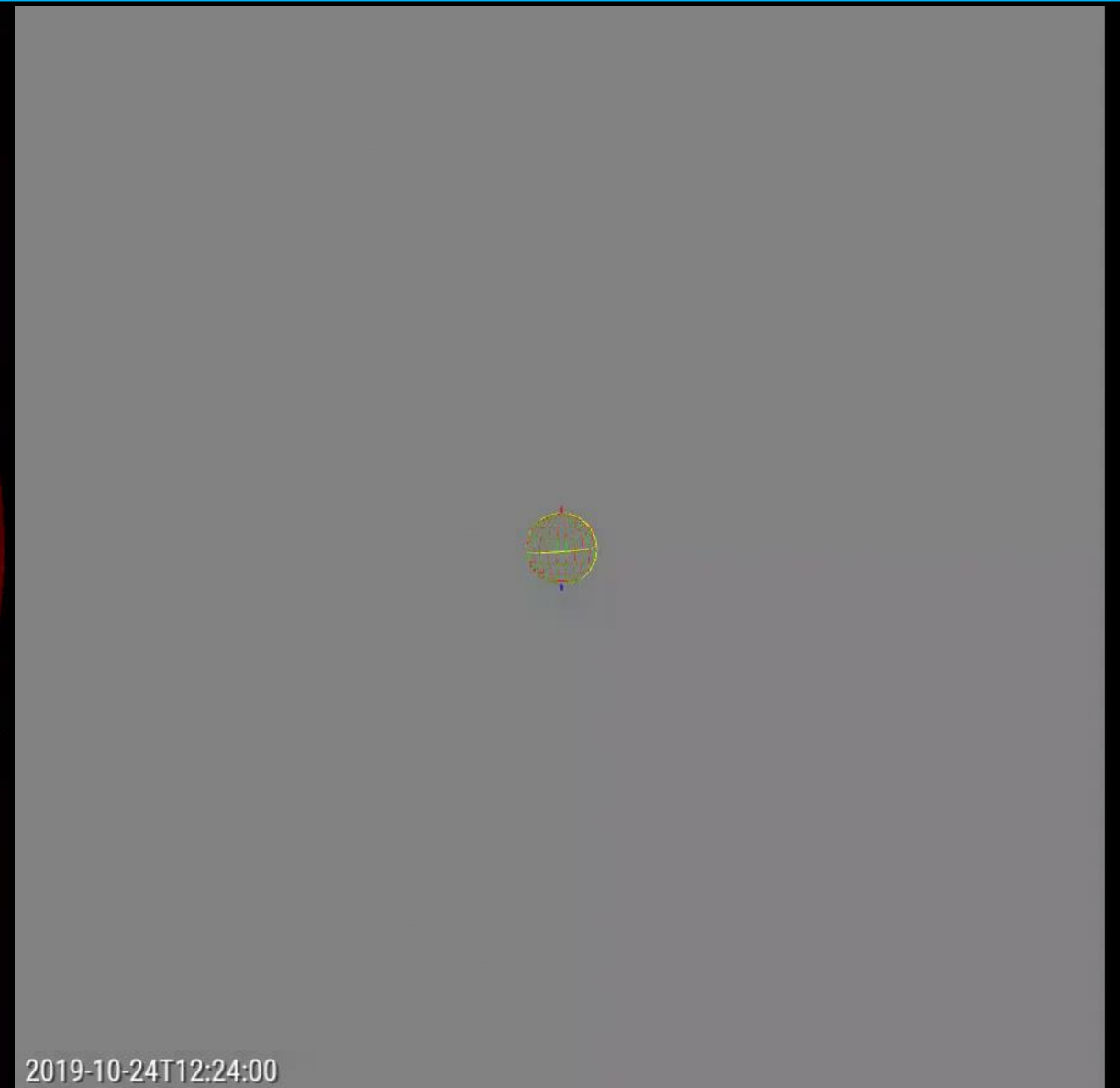
Coronal Mass Ejection



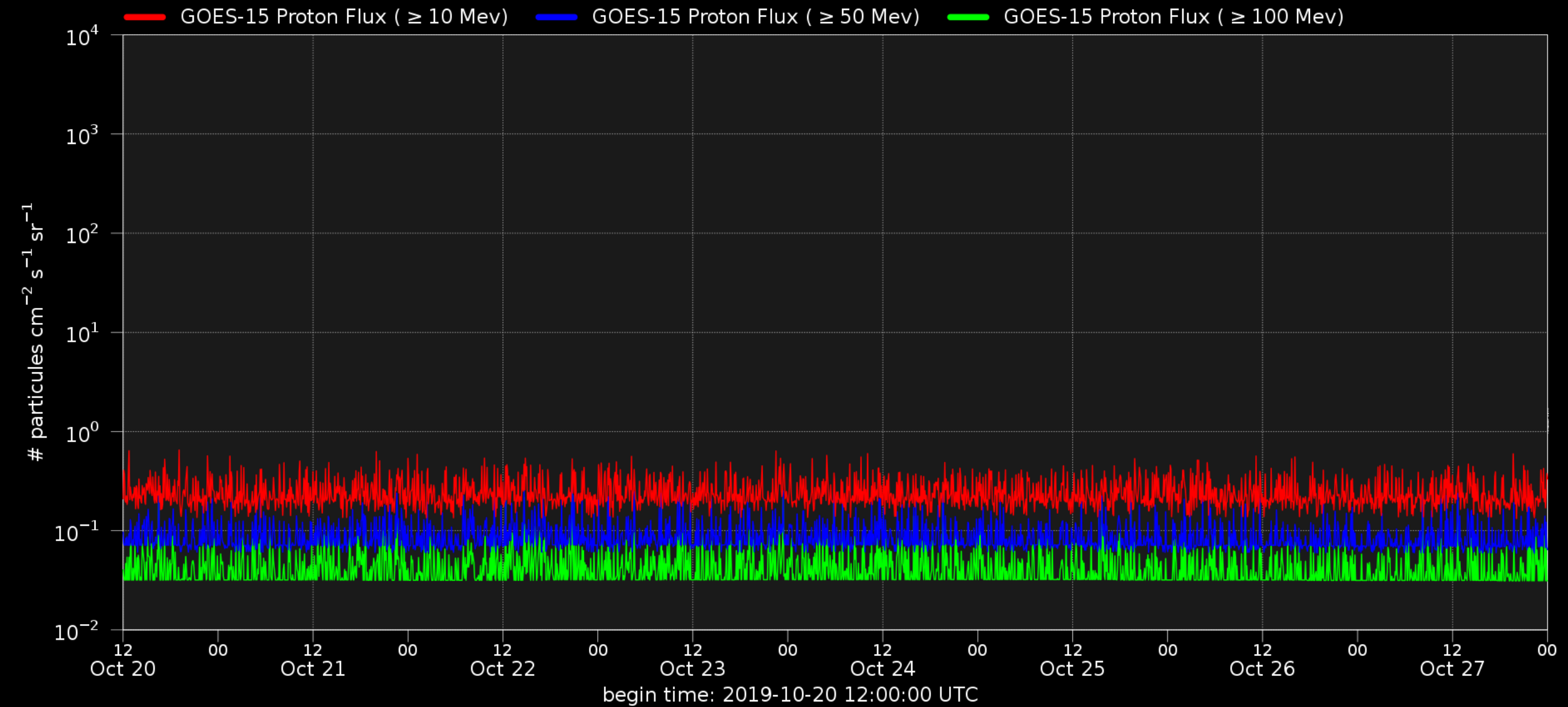
Coronal Mass Ejection



Coronal Mass Ejection



Solar proton flux



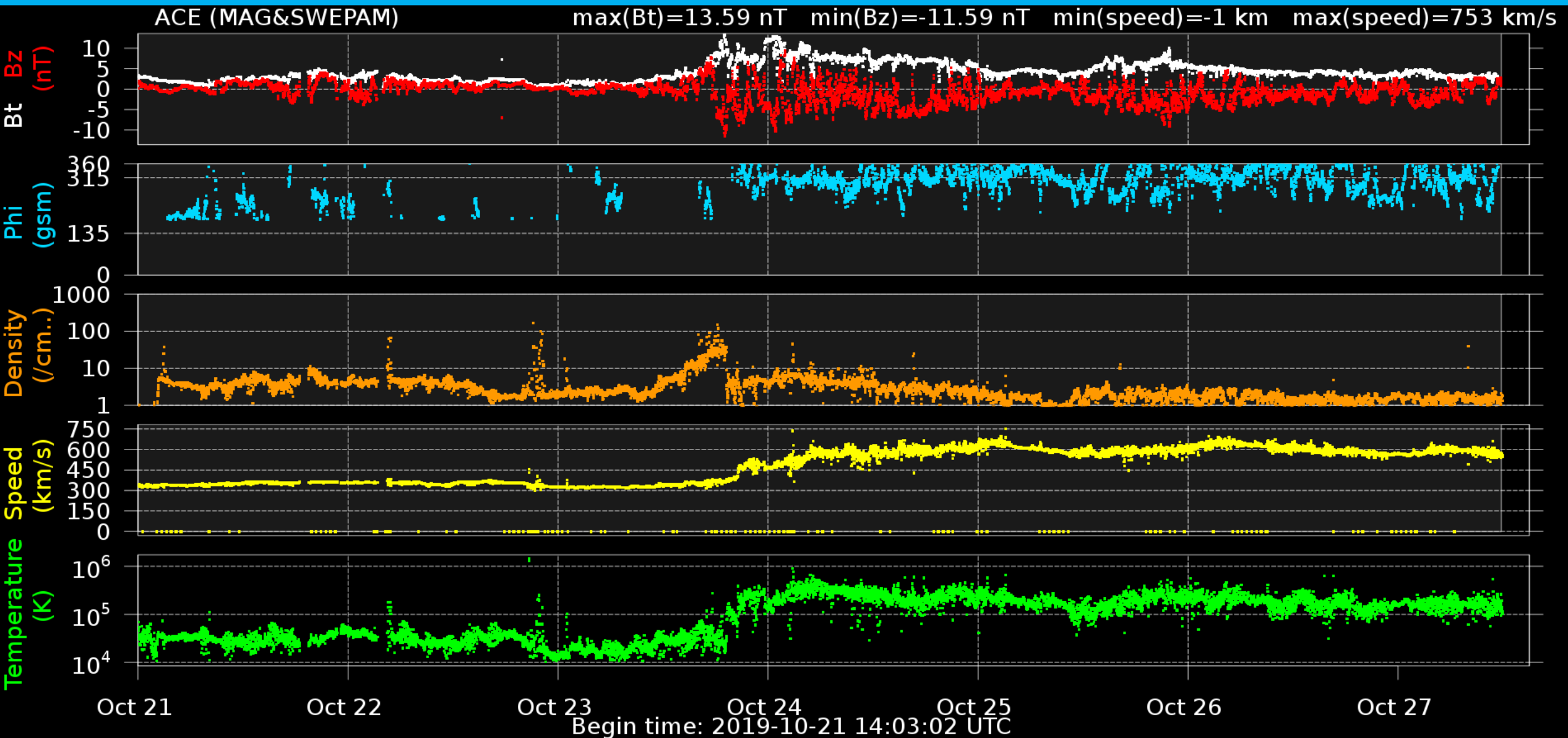
Solar Wind and Geomagnetic Activity



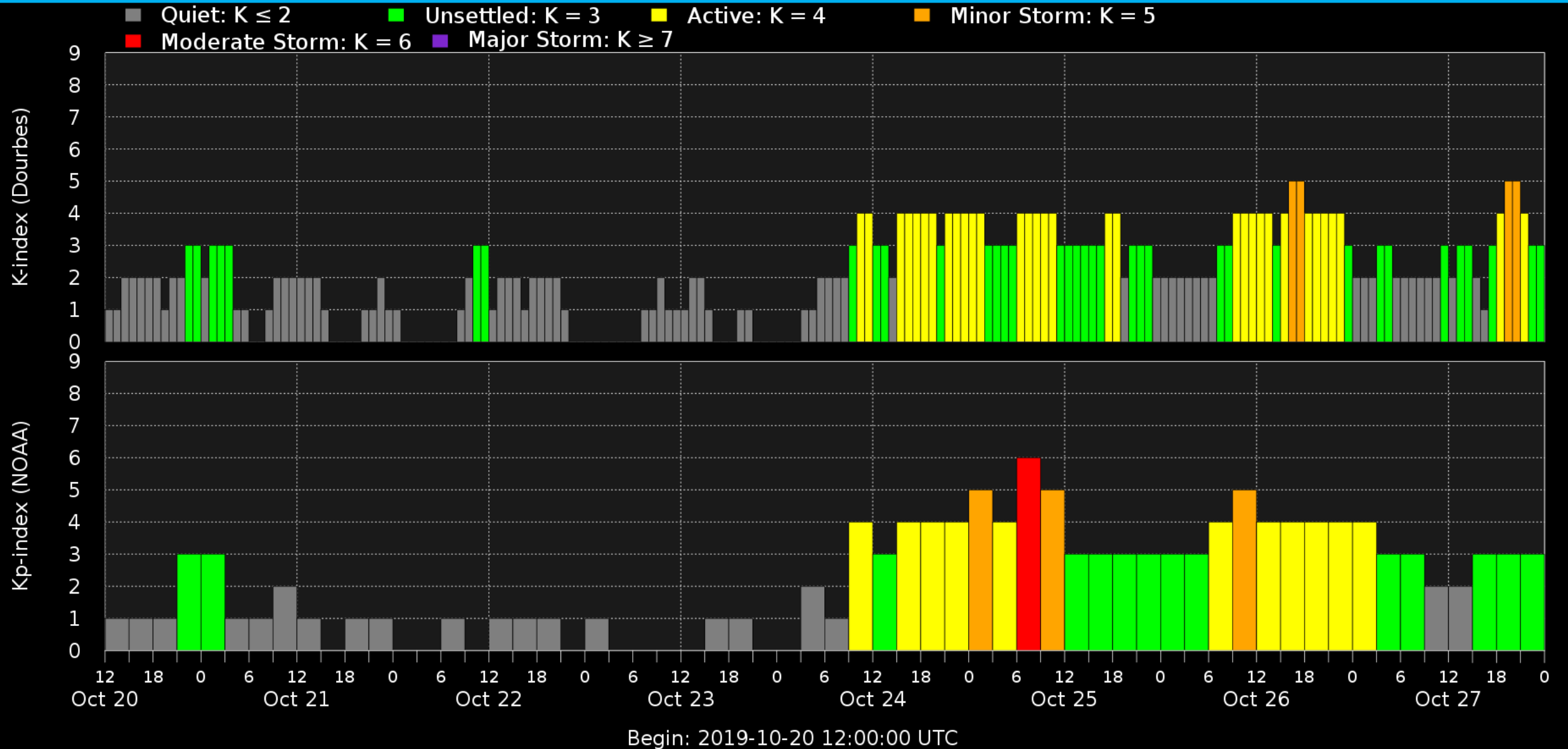
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Solar wind parameters (ACE data)



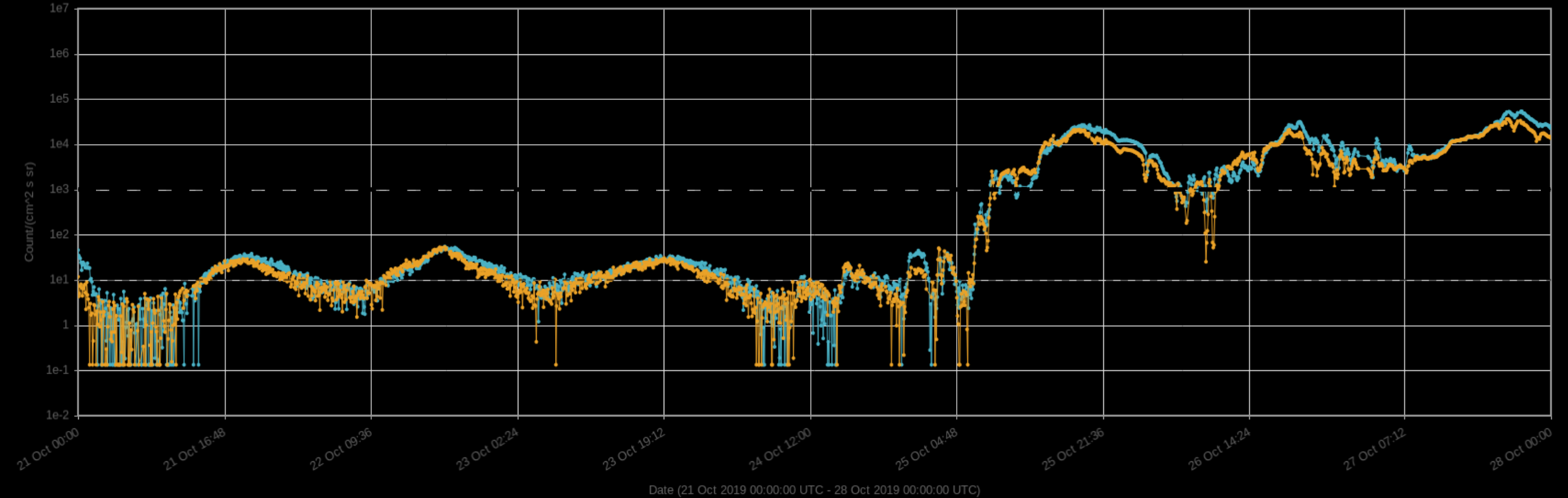
Geomagnetic activity (K-indexes)



Electron flux at GEO

www.staff.oma.be

■ Particles - GOES Electrons at > 2.0 Mev (Secondary) (quicklook) - 1844 data points - (raw - 5 minute data)
■ Particles - GOES Electrons at > 2.0 Mev (quicklook) - 1899 data points - (raw - 5 minute data)



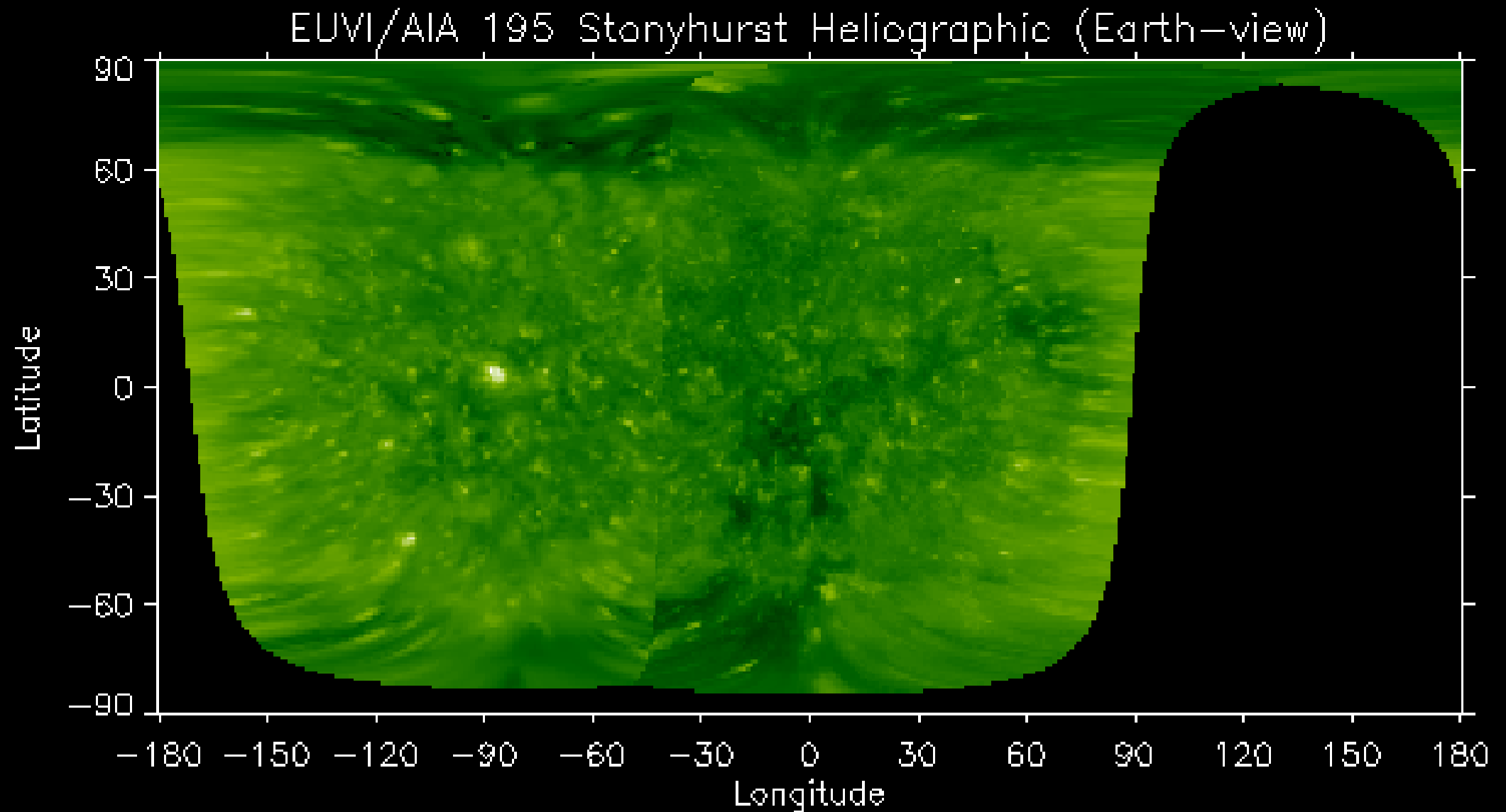
Outlook



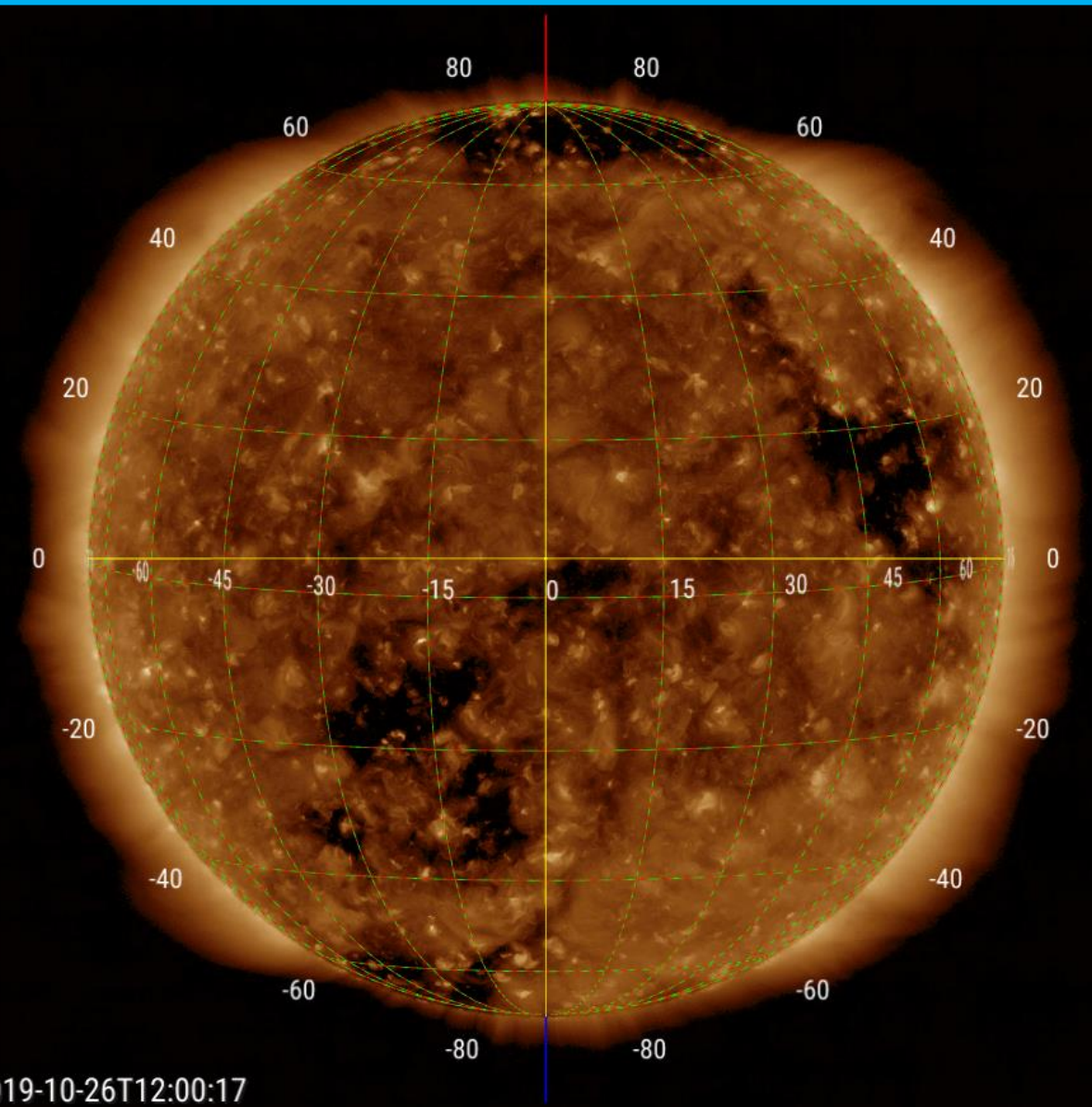
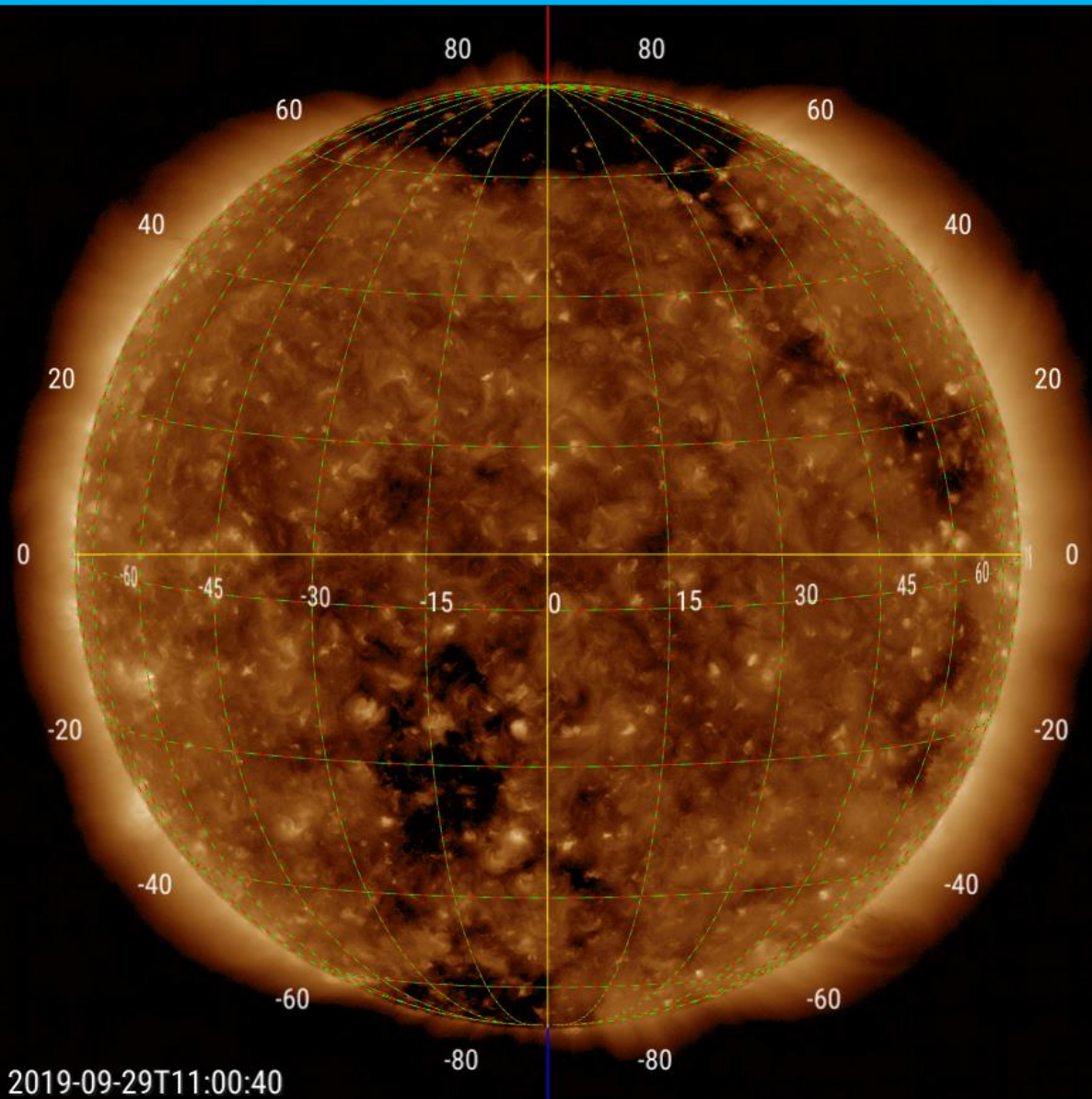
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Outlook: Solar activity



Outlook: CH-



Outlook: Solar wind



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