

SIDC Space Weather briefing

27 November – 3 December 2017

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Solar Influences
Data analysis Centre
www.sidc.be



Royal Observatory
of Belgium

Summary Report

Solar Activity:

Active Regions	NOAA 2689 ; spotless
Flaring	X-Ray flux below C-class level
Filaments	A number of filaments, one 40° long in SW quadrant
CMEs	One filament eruption (NW quadrant)
Proton Events	Background level

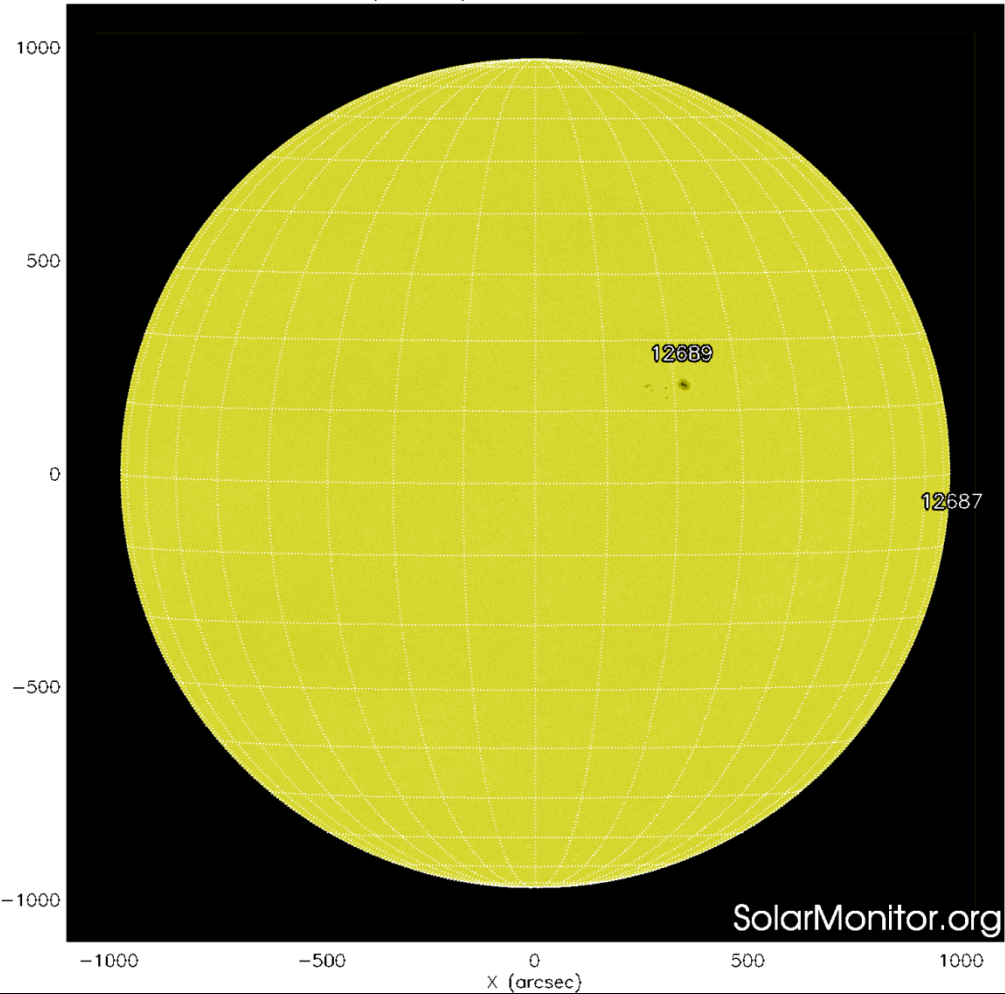
Solar wind and Geomagnetic conditions:

ICME	No Earth directed CME
Coronal Hole	Extensions from southern and northern polar CH
SW conditions	Weak CH wind streams with speeds just above 500 km/s
Kp index	Kp=4 and K-Dourbes=3

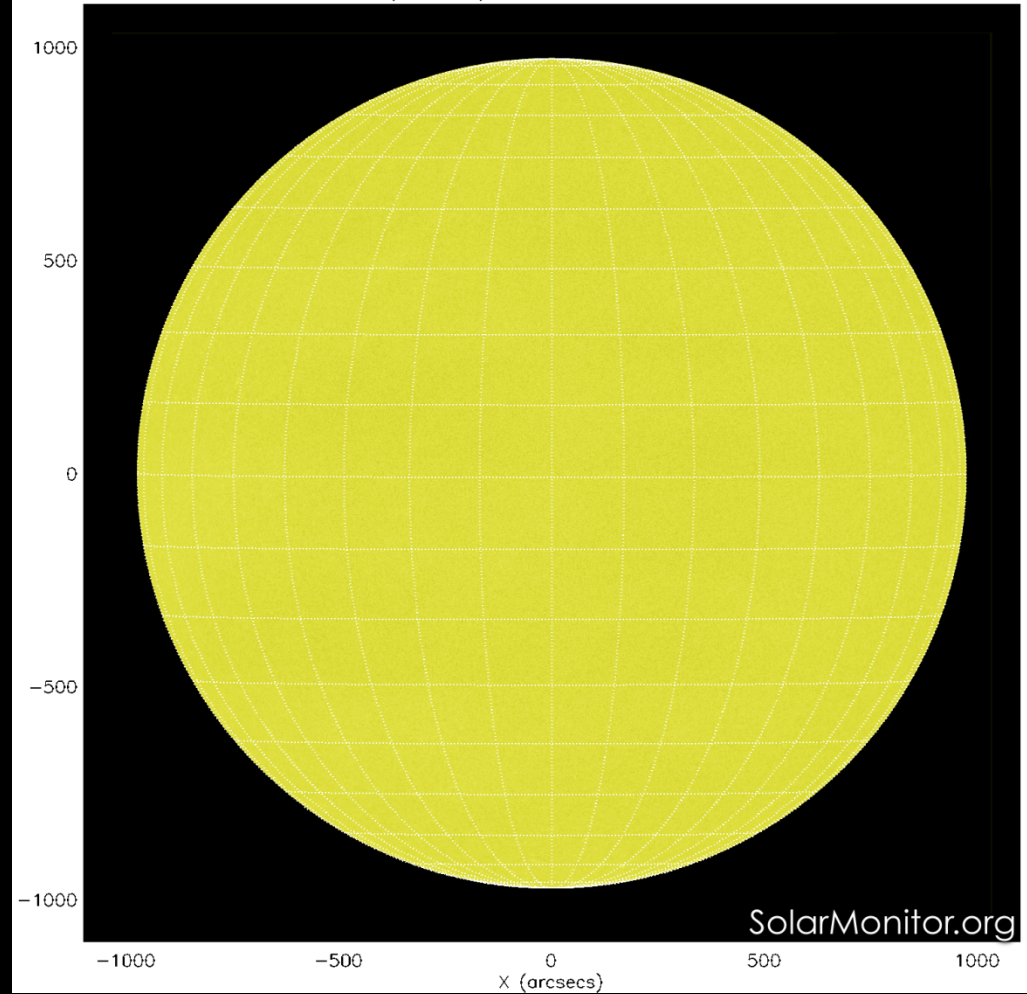
End of ALL QUIET ALERT on November 07

Solar active region evolution

SDO HMI (6173 Å) 26-Nov-2017 19:46:31.300

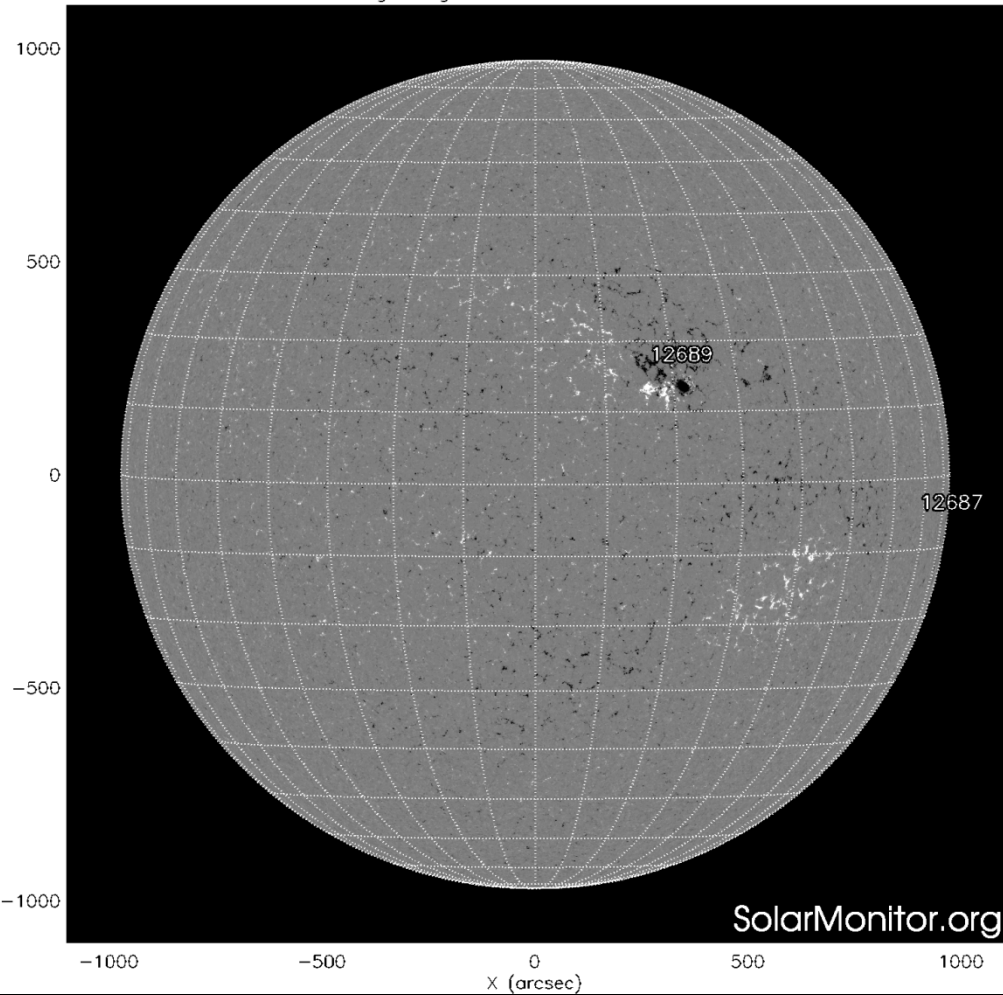


SDO HMI (6173 Å) 3-Dec-2017 11:34:30.900

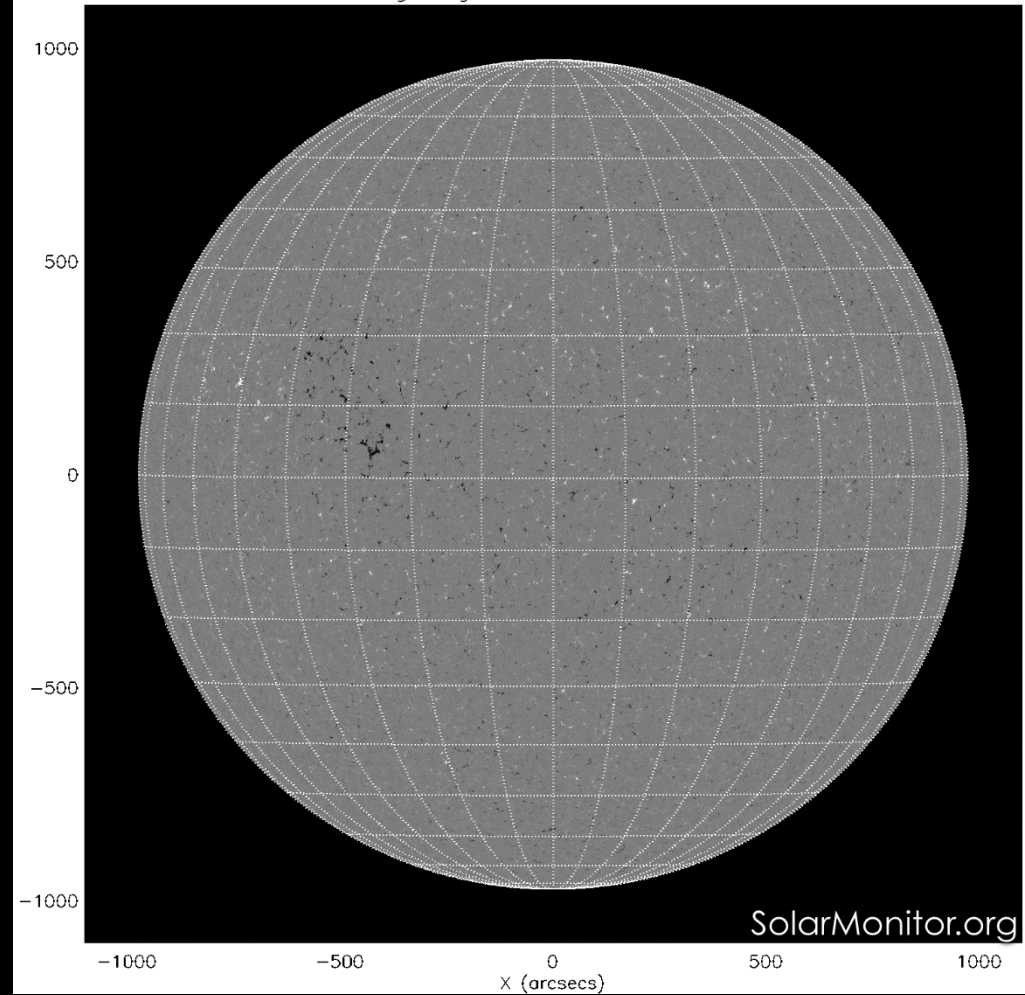


Solar active region evolution

SDO HMI Magnetogram 26-Nov-2017 19:46:31.300

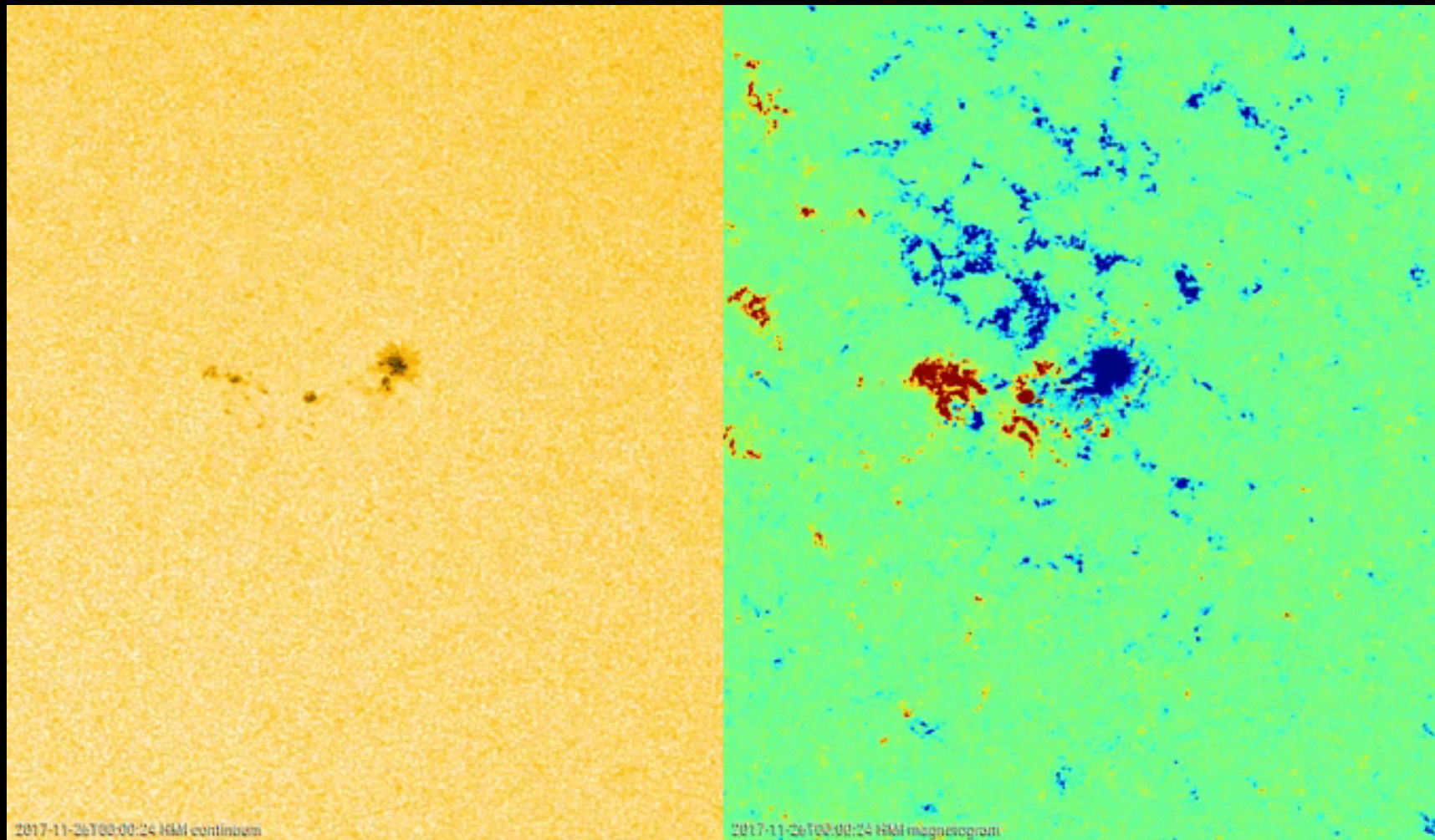


SDO HMI Magnetogram 3-Dec-2017 11:34:30.900



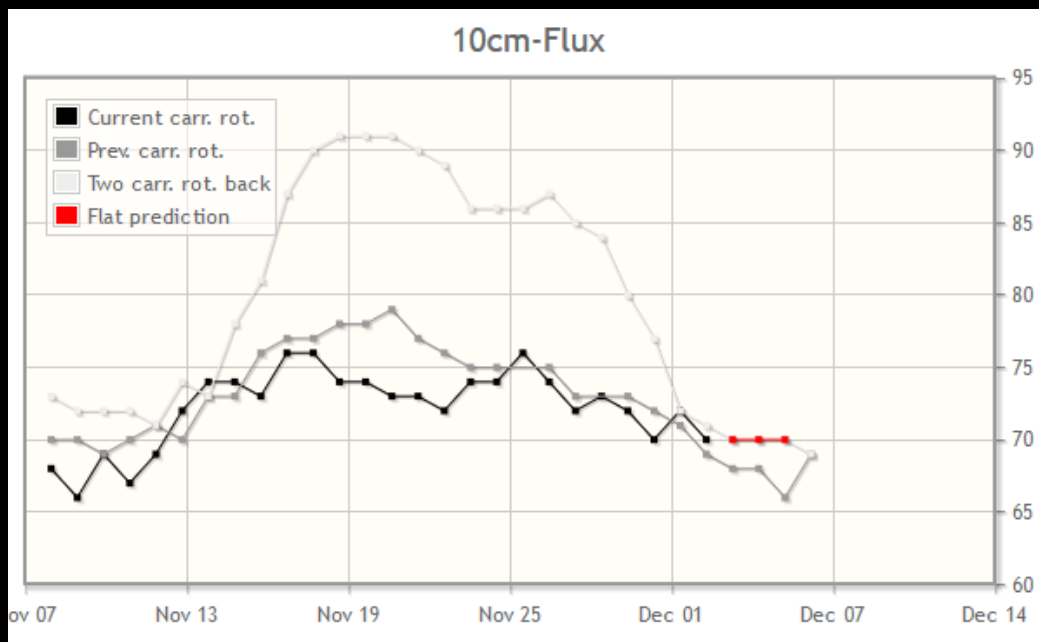
NOAA 2689 (26 Nov – 30 Nov)

SDO/HMI Continuum & SDO/HMI Magnetogram



Evolution of 10.7cm Radio Flux

Predicted and observed 10.7cm Radio flux (sfu)

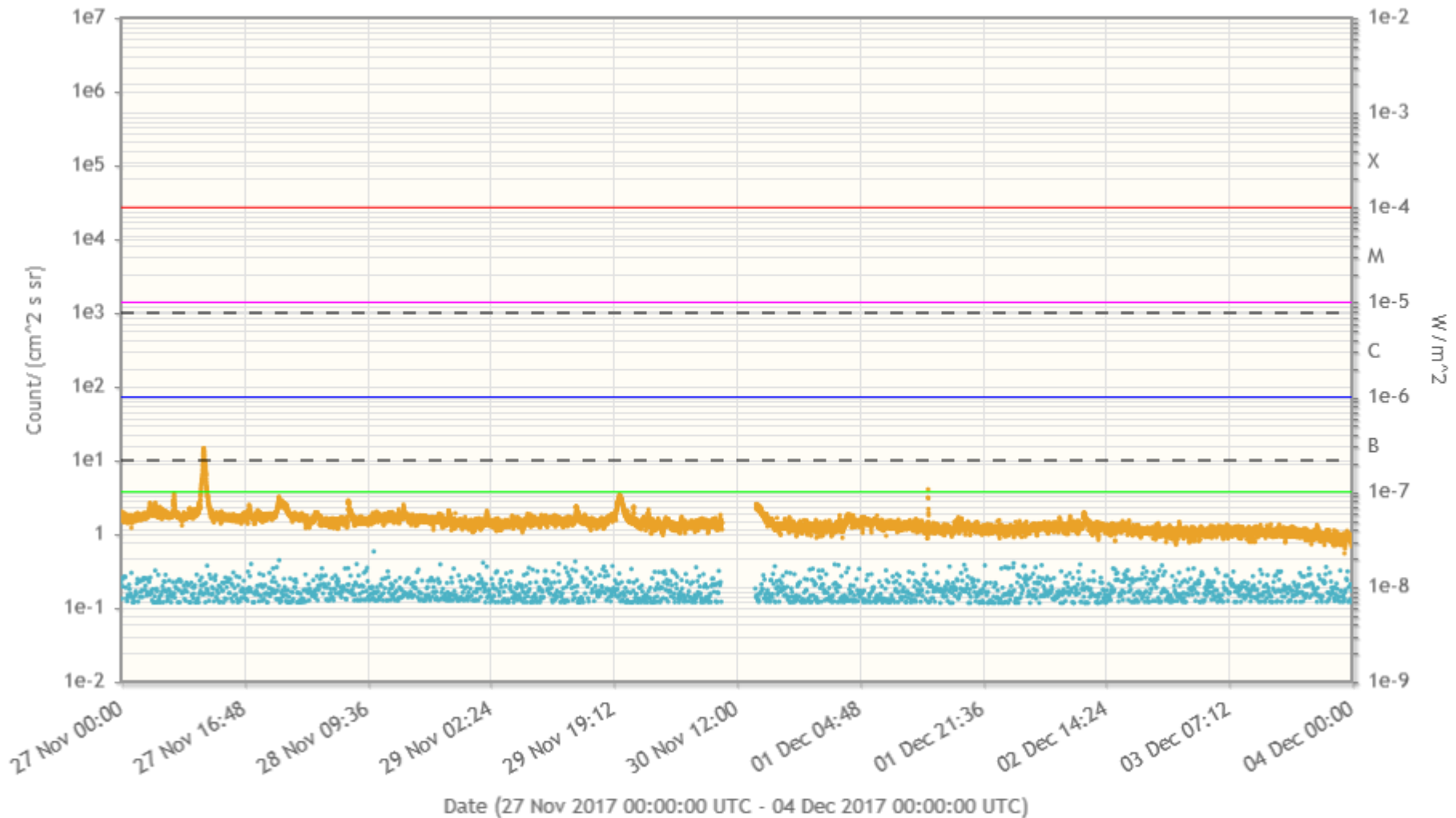


Issue time	Pred.	Obs.
2017-11-27T12:30	75	74
2017-11-28T12:30	74	72
2017-11-29T12:30	72	73
2017-11-30T12:30	72	72
2017-12-01T12:30	71	70
2017-12-02T12:30	70	72
2017-12-03T12:30	71	69

Solar X-ray flux and ≥ 10 MeV proton flux (GOES)

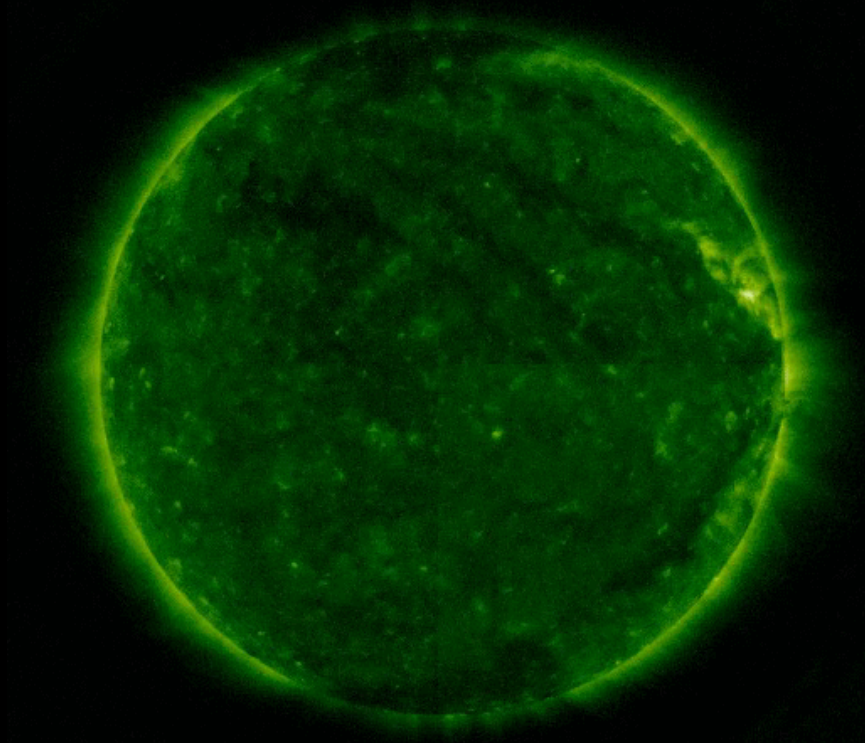
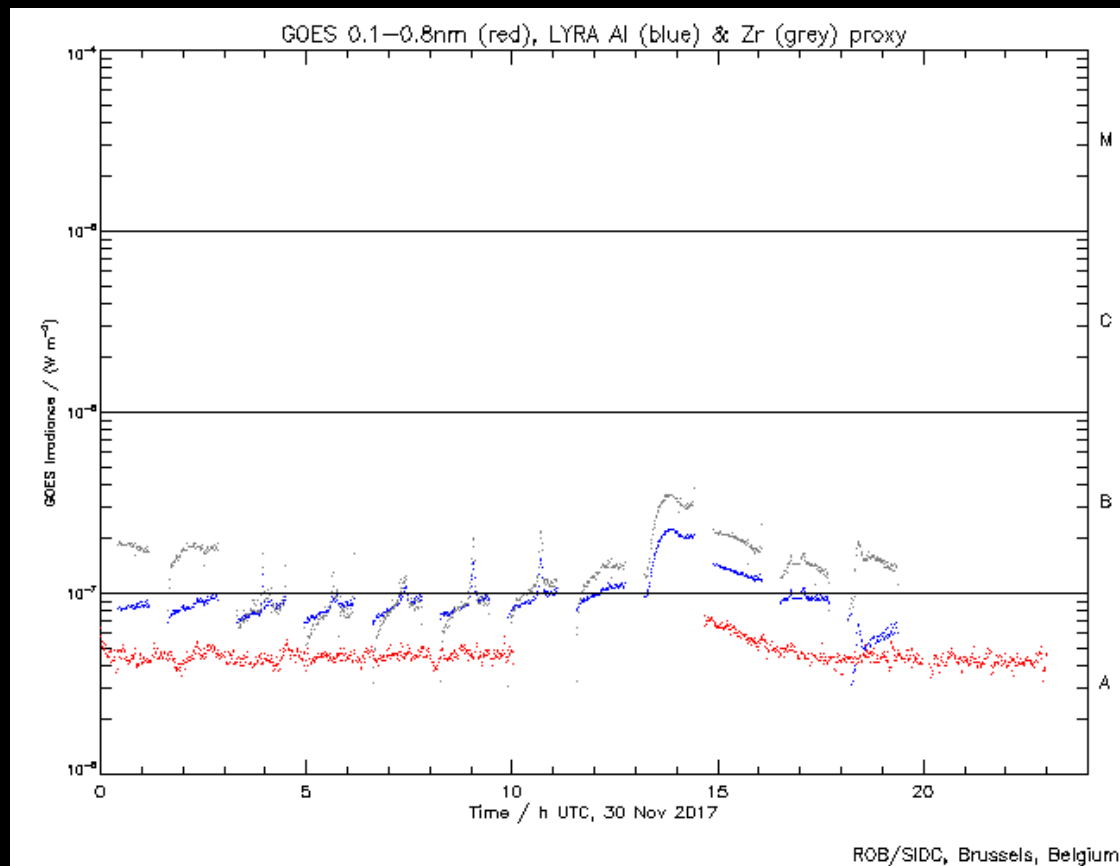
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■ Protons / Electrons - GOES Particles at > 10 MeV (quicklook) - (raw - 5 minute data)
■ X-Ray - GOES X-Ray flux 0.1-0.8 nm (quicklook) - (raw - 1 minute data)



Small B-flare in NOAA 2689

Est. B1.3 from PROBA2/LYRA



P2SC, <http://proba2.oma.be/ssa>

SDO, <https://sdo.gsfc.nasa.gov/data/aiahmi/>

Evolution of Flare probability

Probability of full disk x-ray flare occurrence over 24h

Issue time	P(C)	P(M)	P(X)	#C obs.	#M obs.	#X obs.
2017-11-27T12:30	0.15	0.01	0.01	0	0	0
2017-11-28T12:30	0.15	0.01	0.01	0	0	0
2017-11-29T12:30	0.10	0.01	0.01	0	0	0
2017-11-30T12:30	0.10	0.01	0.01	0	0	0
2017-12-01T12:30	0.05	0.01	0.01	0	0	0
2017-12-02T12:30	0.01	0.01	0.01	0	0	0
2017-12-03T12:30	0.01	0.01	0.01	0	0	0

Filaments (26 Nov – 01 Dec)

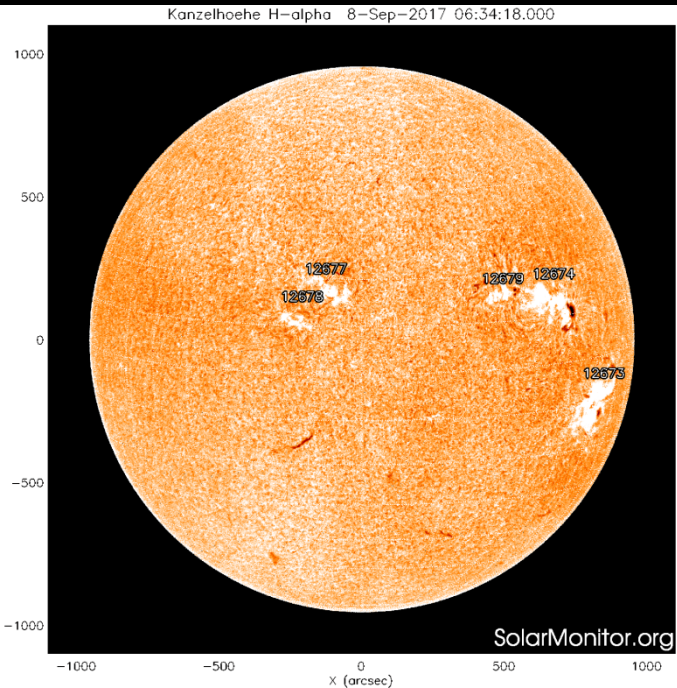
GONG/H-alpha overlay on SDO/AIA 304



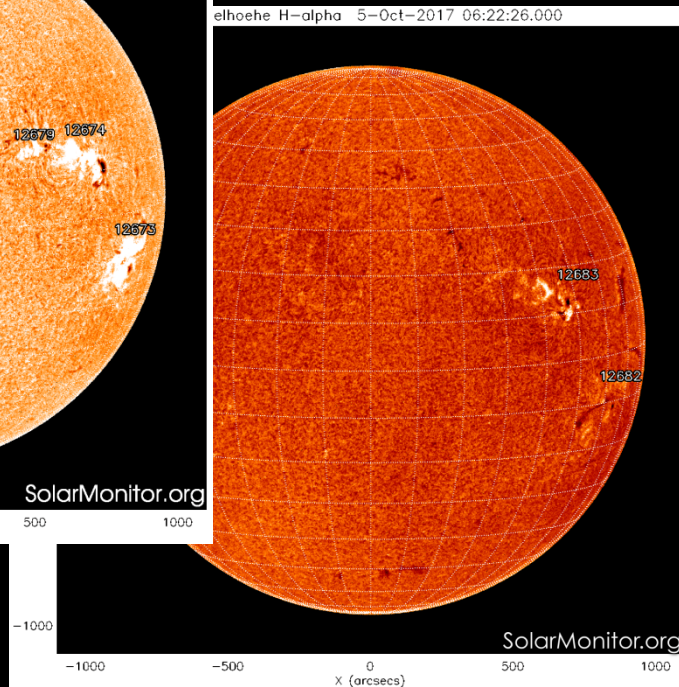
2017-11-26T00:04:30

Jhelioviewer, <http://www.jhelioviewer.org/>

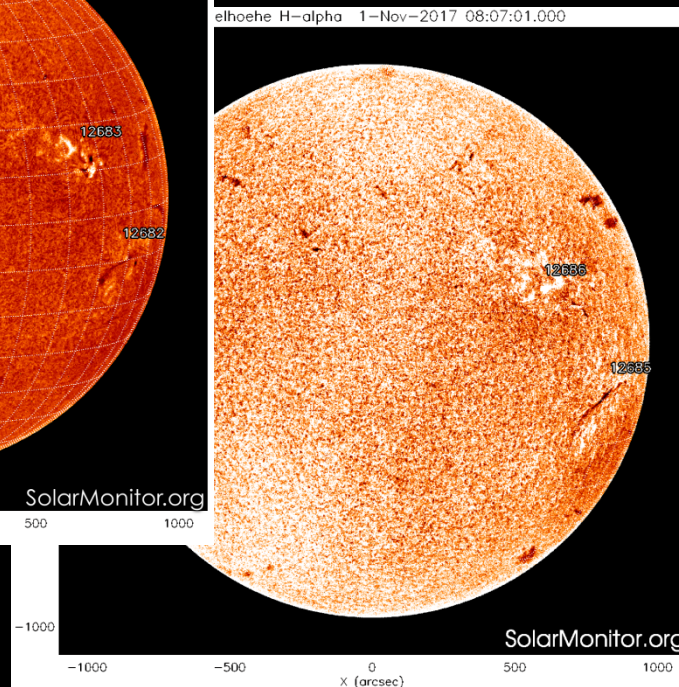
40° long filament near SW limb



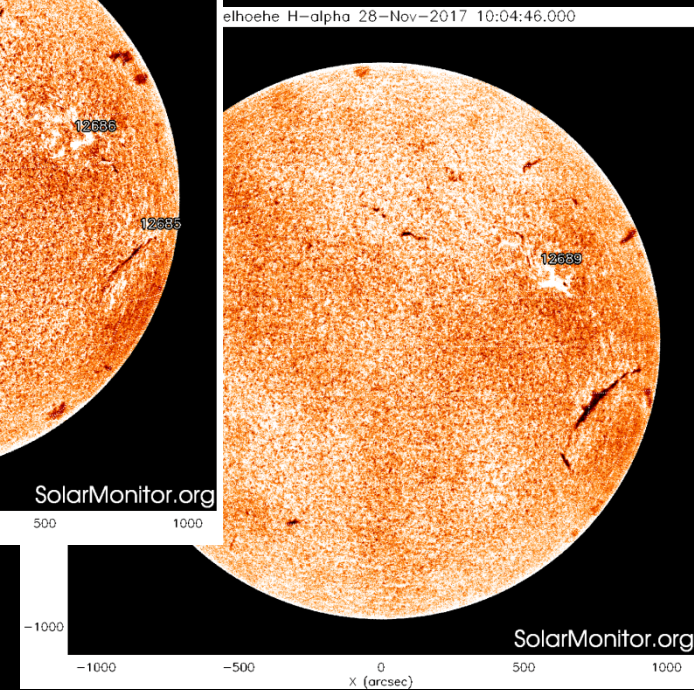
08 Sep 2017



05 Oct 2017

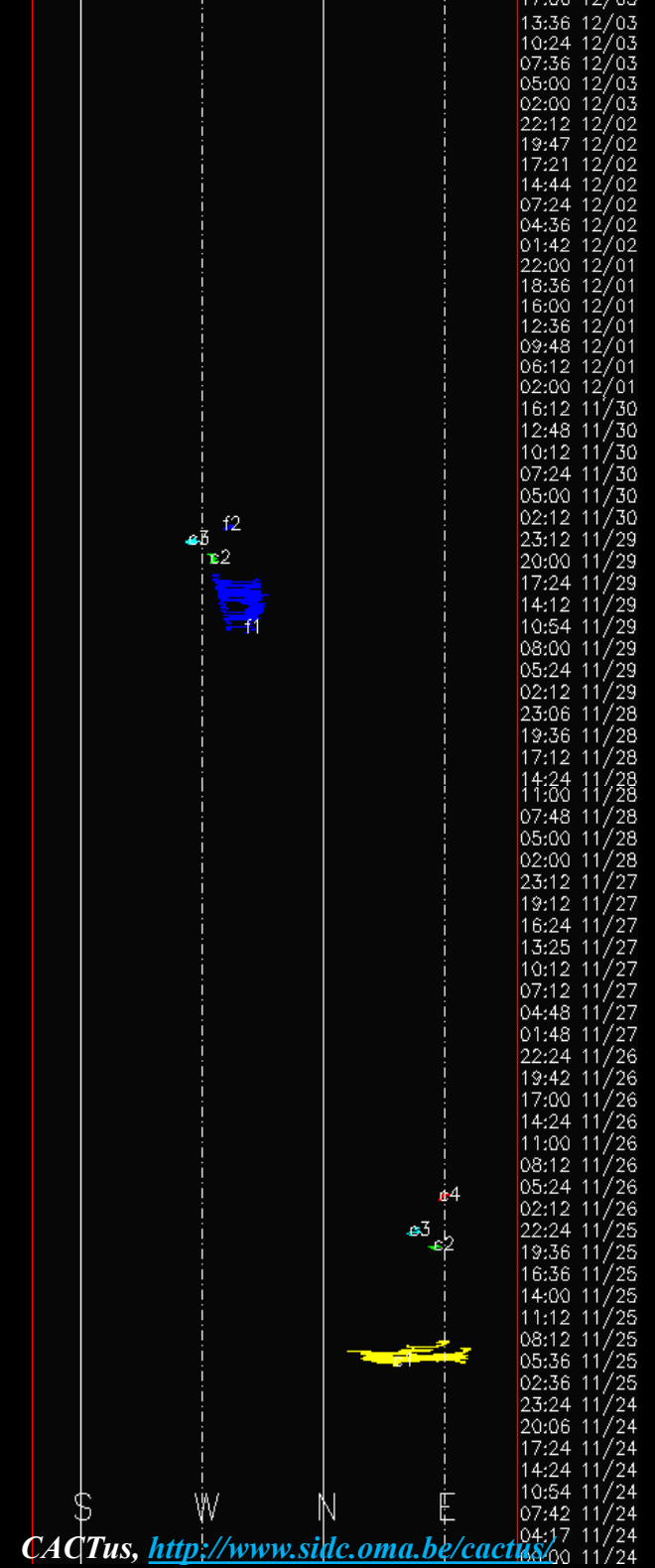
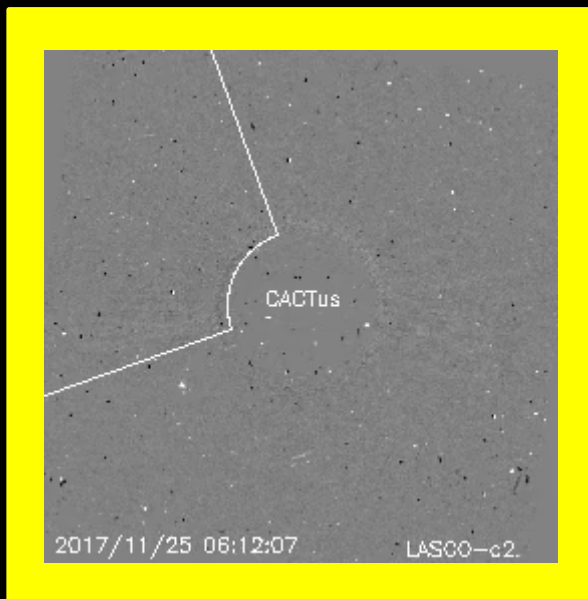
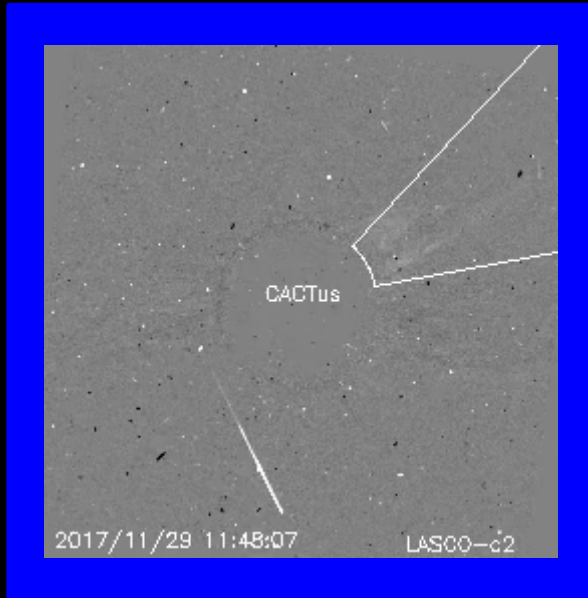


01 Nov 2017

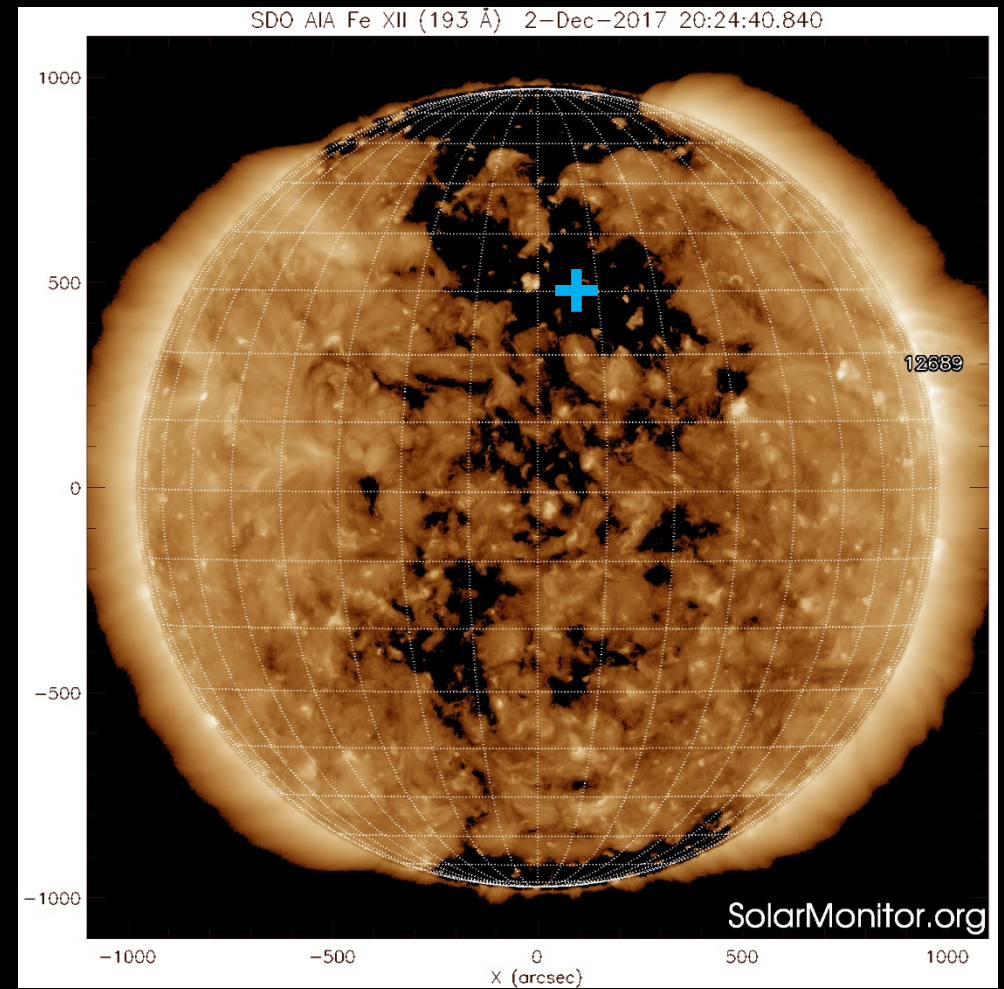
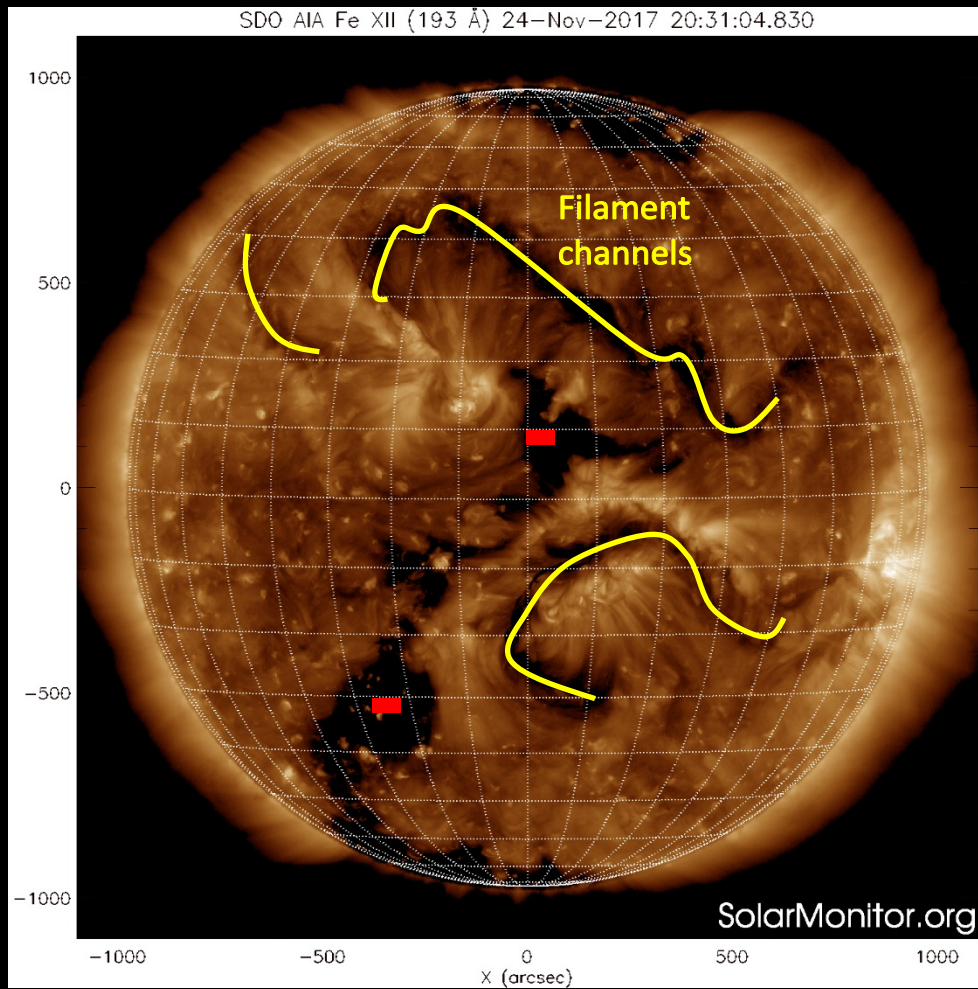


28 Nov 2017

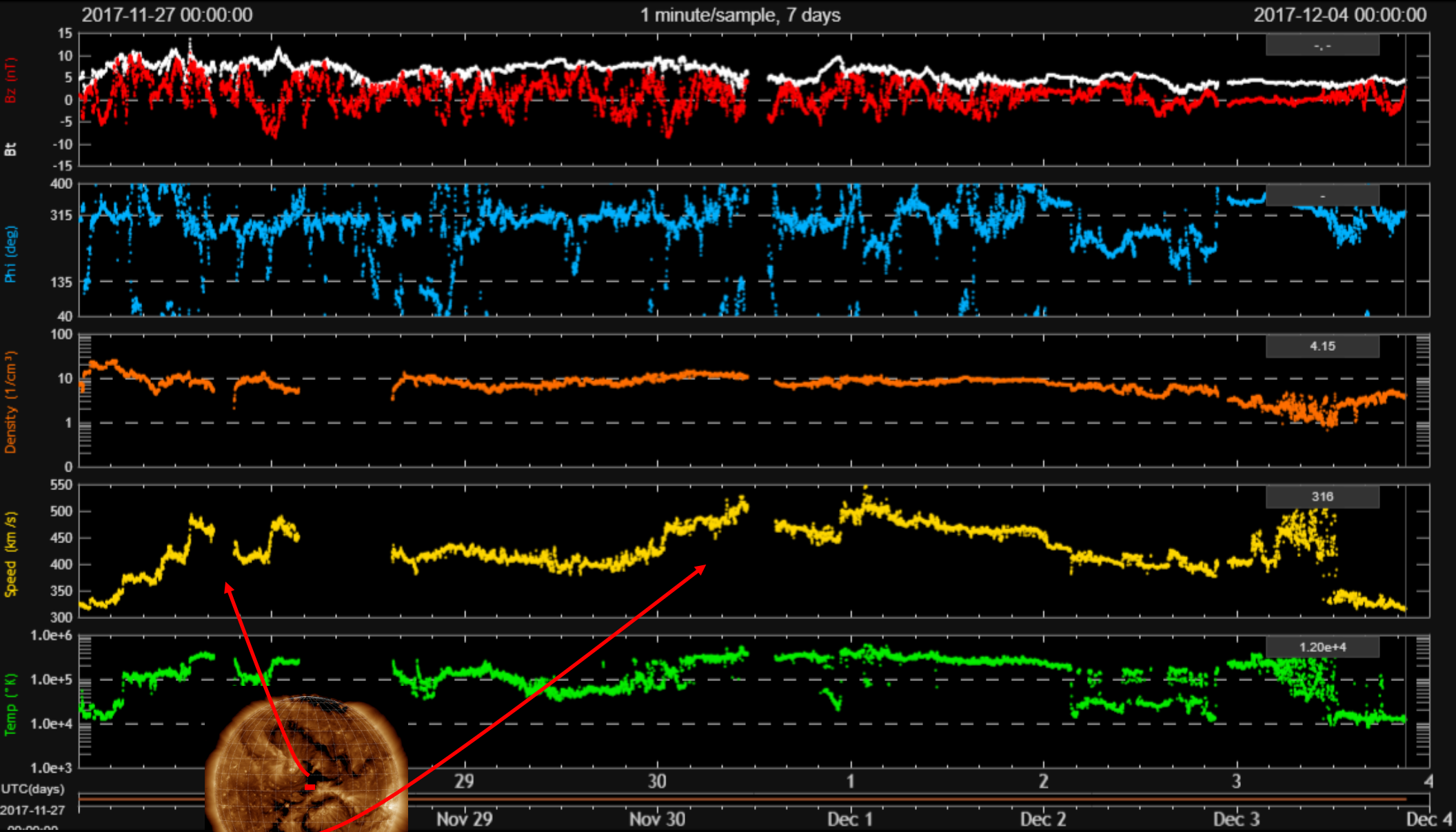
CMEs



Coronal holes



Solar wind

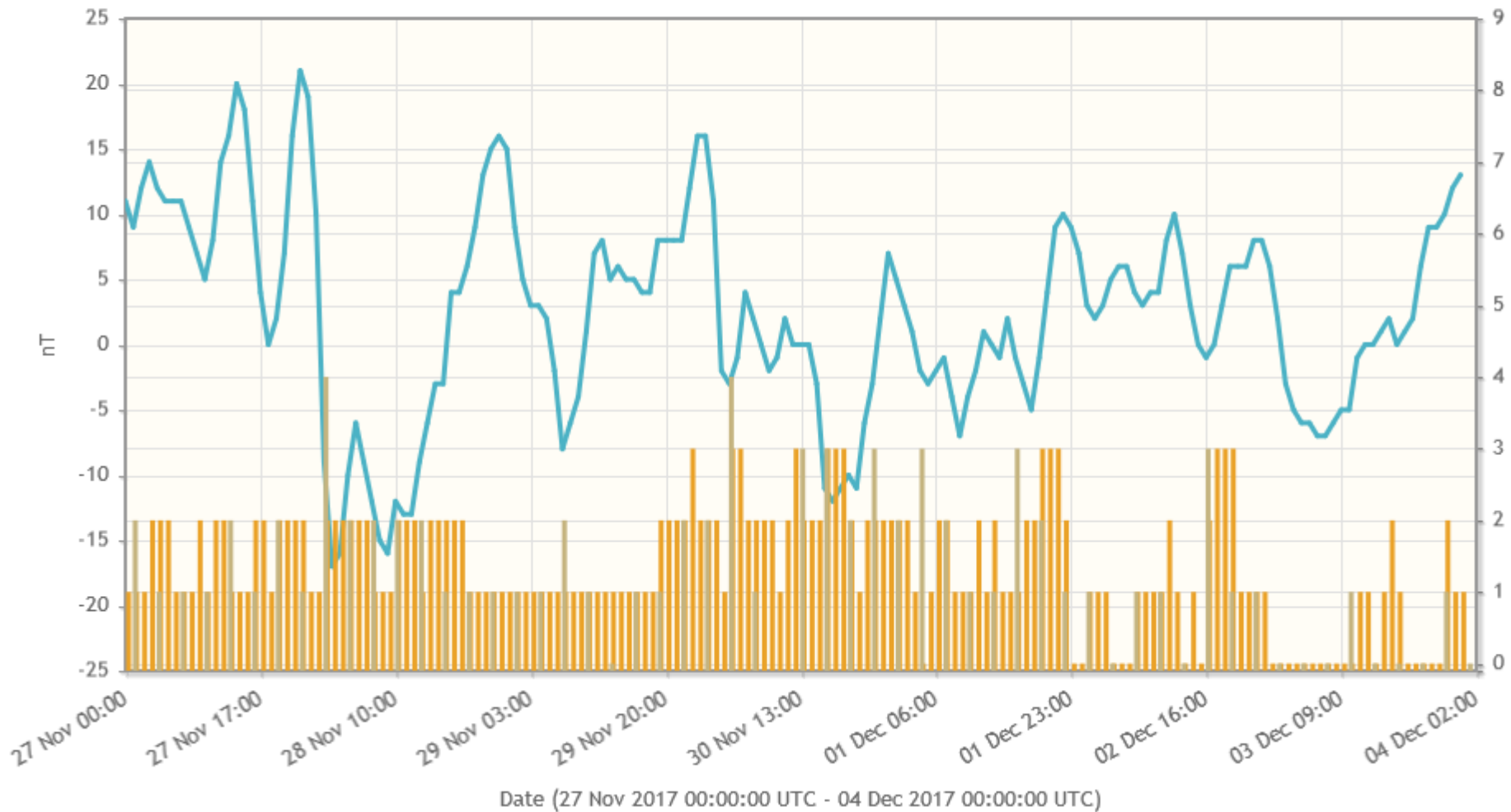


DSCOVR, <http://www.swpc.noaa.gov/products/real-time-solar-wind>

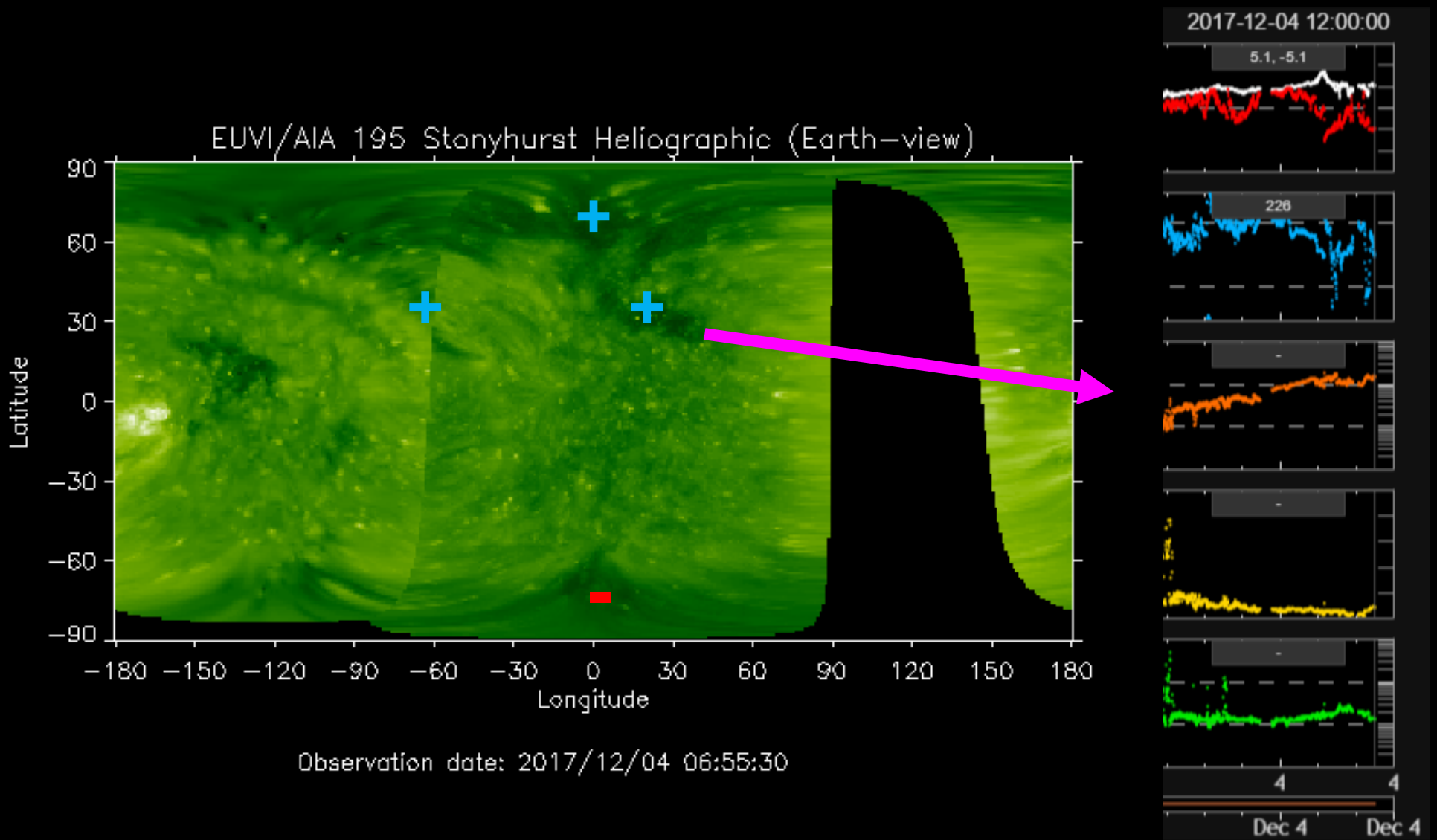
Geomagnetism

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- Geomagnetic - Dst (quicklook) - (raw - hourly data)
- Geomagnetic - K (Dourbes) (quicklook) - (raw - 3 hour data)
- Geomagnetic - Kp (NOAA) (quicklook) - (raw - 3 hour data)



Outlook



SIDC Space Weather briefing

See you at our next briefing!

Or visit us at www.sidc.be

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