SOL (Cecatto)

Summary – Week November 27 to December 04

Summary

11/27 – No M/X flare; Fast (=< 500 km/s) wind stream; 3 CME can have component toward the Earth;
11/28 – Flares M3.4, M9.8; Fast (=< 500 km/s) wind stream; 8 CME can have component toward the Earth;
11/29 – No M/X flare; Fast (=< 450 km/s) wind stream; 4 CME can have component toward the Earth;
*11/30 – No M/X flare; No fast solar wind stream; 3 CME can have component toward the Earth *;*
*12/01 – Flares M1.1, M1.0; Fast (=< 550 km/s) wind stream; 14 CME can have component toward the Earth *;*
12/02 – No M/X flare; Fast (=< 500 km/s) wind stream; 11 CME can have component toward the Earth;
12/03 – No M/X flare; Fast (=< 550 km/s) wind stream; 13 CME can have component toward the Earth;
12/04 – No M/X flare; Fast (=< 550 km/s) wind stream; 2 CME can have component toward the Earth
Prev.: Fast wind stream for today and next 1-2 days; for while low (30% M, 05% X) probability of M / X flares next 2 days; also, occasionally some other CME can present a component toward the Earth.

Resumo – Semana de 27 de Novembro a 04 de Dezembro

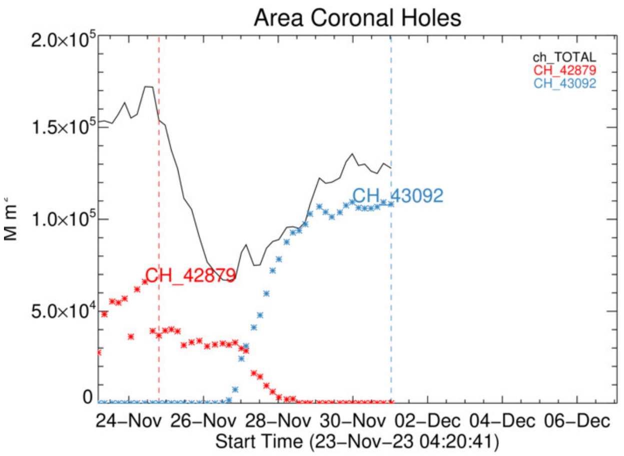
27/10 – Sem "flare" M/X; Vento rápido (< 500 km/s); 3 CME podem ter uma componente para a Terra;
28/10 – "Flares" M3.4, M9.8; Vento rápido (< 500 km/s); 8 CME podem ter uma componente para a Terra;
29/11 – Sem "flare" M/X; Vento rápido (< 450 km/s); 4 CME podem ter uma componente para a Terra;
*30/11 – Sem "flare" M/X; Sem vento solar rápido; 3 CME podem ter uma componente para a Terra *;*
*01/12 – "Flares" M1.1, M1.0; Vento rápido (< 550 km/s); 14 CME podem ter uma componente para a Terra *;*
02/12 – Sem "flare" M/X; Vento rápido (< 500 km/s); 11 CME podem ter uma componente para a Terra;
03/12 – Sem "flare" M/X; Vento rápido (< 550 km/s); 13 CME podem ter uma componente para a Terra;
04/12 – Sem "flare" M/X; Vento rápido (< 550 km/s); 2 CME podem ter uma componente para a Terra
Prev.: Vento rápido para hoje e próximos 1-2 dias; baixa probabilidade de "flares" (30% M, 05% X) nos próximos 02 dias; eventualmente alguma outra CME pode apresentar componente dirigida para a Terra.

Solar - WSA-ENLIL

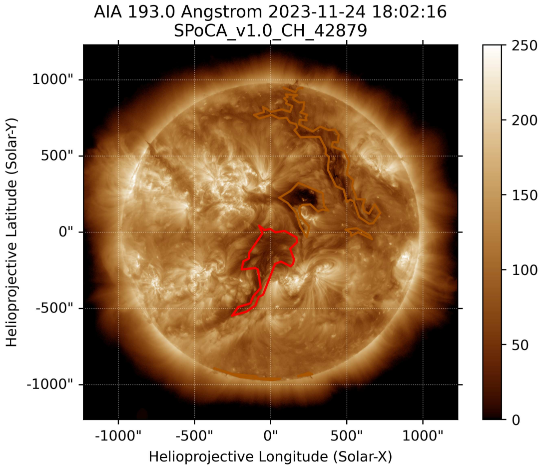
EMC (https://ccmc.gsfc.nasa.gov/donki/):

WSA-ENLIL(CME 2023-11-27 06:48:00 UT)
The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2023-11-30 03:00:00 UT and 2023-11-30 17:00:00 UT.

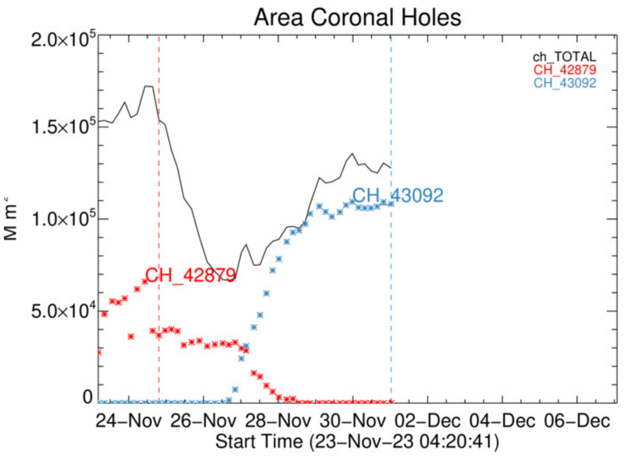
Solar - Coronal holes Spatial Possibilistic Clustering Algorithm (SPoCAS):



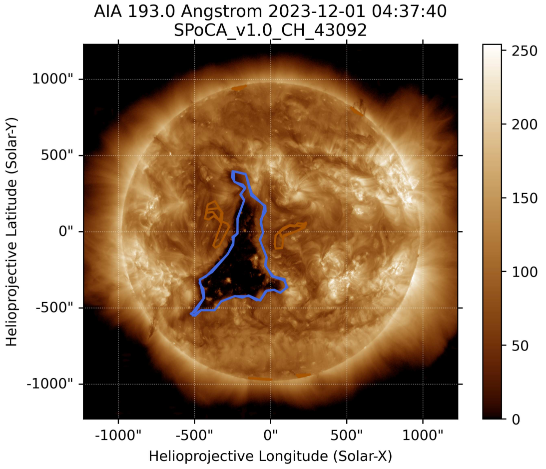
(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between November 23 and December 01,2023.



(b) Above the 193 Å image of the Sun is highlighted coronal holes observed by SPOCA around 18:02 UT on November 24, 2023 (red dot line).

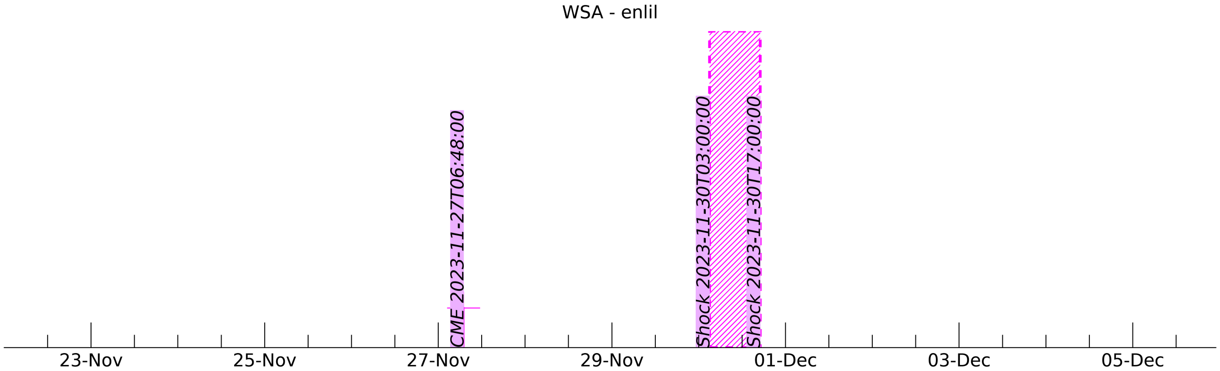


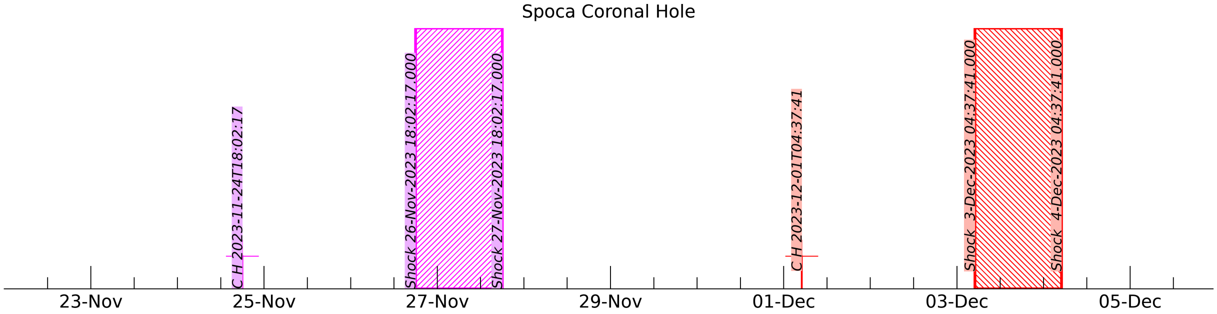
(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between November 23 and December 01,2023.



(b) Above the 193 Å image of the Sun is highlighted coronal holes observed by SPOCA around 04:37 UT on December 01, 2023 (blue dot line).

Solar - WSA - ENLIL and SPoCA





EARTH’S RADIATION BELT

Responsible: Ligia Da Silva

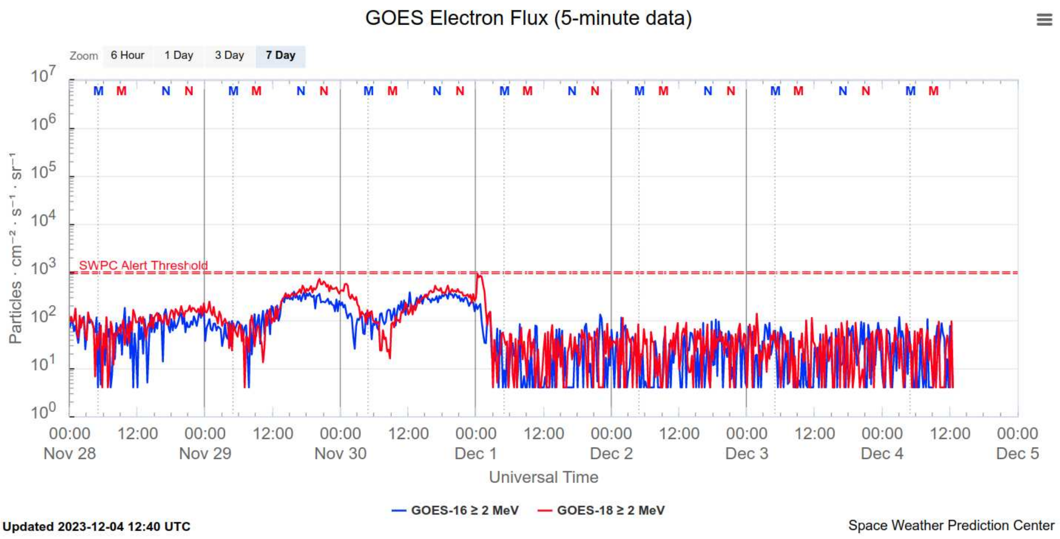


Figure 1: High-energy electron flux (> 2MeV) obtained from GOES-16 and GOES-18 satellite. Source: https://www.swpc.noaa.gov/products/goes-electron-flux

Summary

The high-energy electron flux (>2 MeV) in the outer boundary of the outer radiation belt obtained from geostationary satellite data GOES-16 and GOES-18 (Figure 1) is slightly below 10^3 particles/(cm^2 s sr) at the beginning of the analyzed period, presenting a dropout at the beginning of December 1st. This electron flux decrease persists until December 4th, occurring under the influence of solar wind structures.

Ionosfera – Digissonda (Laysa Resende)

Summary

We observed the F spread F in Fortaleza and Cachoeira Paulista every day during this week (Figure 1). The Es layers reached a maximum of scale 3 in Cachoeira Paulista (Figure 2) and Fortaleza.

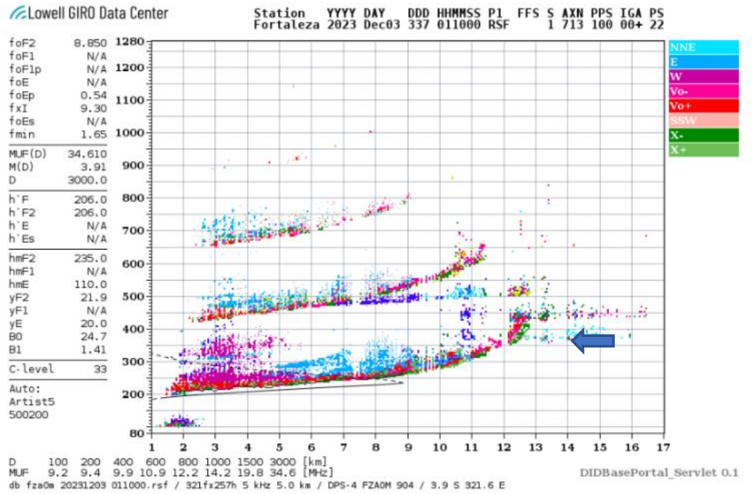


Figure 1 – Ionogram over Cachoeira Paulista, showing the spread F occurrence on December 03, 2023.

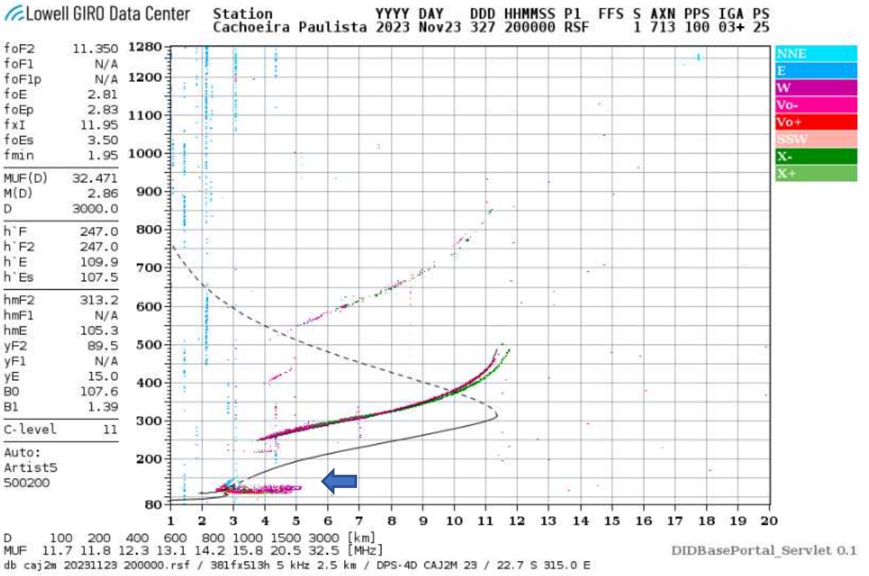


Figure 2 – Ionogram over Cachoeira Paulista, showing the Es layer.

Ionosphere - ROTI
Summary for Week 2290 (November 26 to December 02, 2023)

Carolina de Sousa do Carmo

In the week 2290 (November 26 to December 02, 2023) there were ionospheric irregularities (plasma bubbles) on all nights analyzed, lasting longer on December 2nd. The Figure below shows the ROTI time series for four stations in the Brazilian sector (Natal (RNNA), Bacabal (MABB), Cuiabá (CUIB) and São José dos Campos (SJSP)).

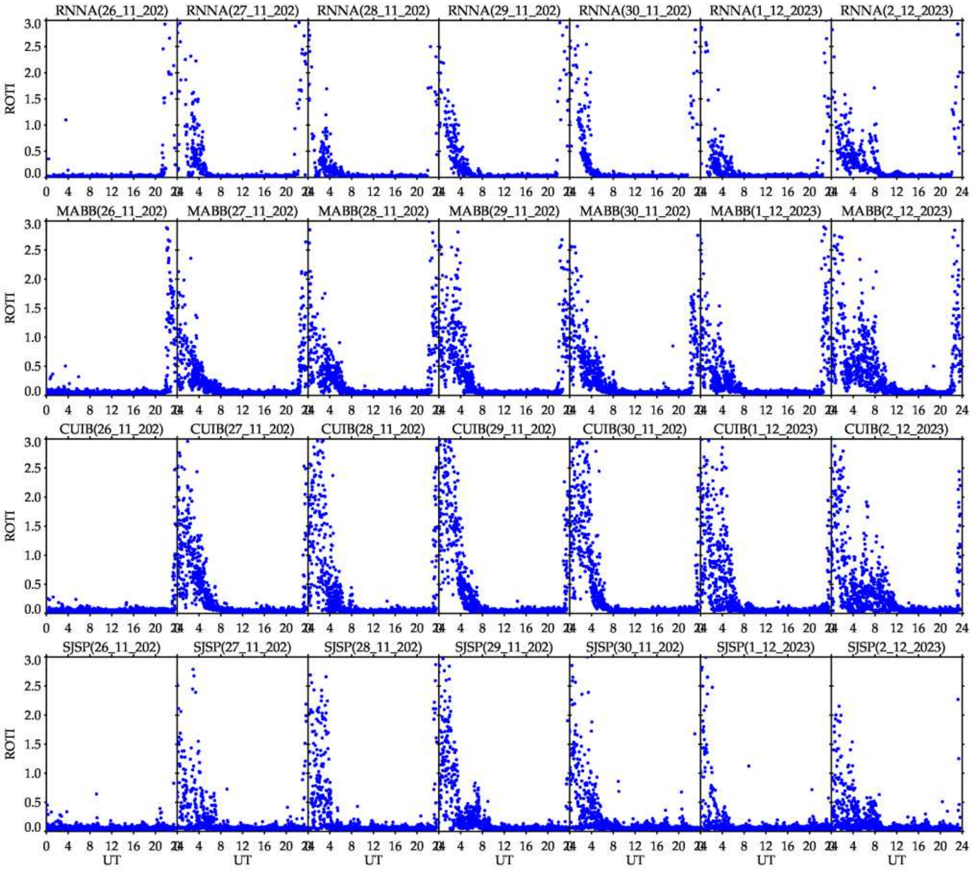


Figure – ROTI time series for four stations in the Brazilian sector (Natal (RNNA), Bacabal (MABB), Cuiabá (CUIB) and São José dos Campos (SJSP)), from November 26 to December 02, 2023.