



Sol – Cecatto
Period: Oct. 07 – Oct. 14, 2024

Summary

10/07 – M1.3, X2.1, X1.0 flares; Fast (≤ 500 km/s) wind stream; 3 CME can have component toward the Earth *;
10/08 – M1.2 flare; Fast (≤ 500 km/s) wind stream; 3 CME can have component toward the Earth;
10/09 – X1.8, M1.6, X1.4, M7.7 flares; Fast (≤ 500 km/s) wind stream; 6 CME can have component toward the Earth;
10/10 – M1.3, M1.1, M1.0, M3.0 flares; Fast (≤ 800 km/s) wind stream; 2 CME can have component toward the Earth;
10/11 – M1.4, M2.1 flares; Fast (≤ 800 km/s) wind stream; 9 CME can have component toward the Earth;
10/12 – No M/X flare; Fast (≤ 700 km/s) wind stream; 5 CME can have component toward the Earth;
10/13 – No M/X flare; Fast (≤ 550 km/s) wind stream; 4 CME can have component toward the Earth;
10/14 – M3.4 flare; Fast (≤ 450 km/s) wind stream; 6 CME can have component toward the Earth
For.: No fast wind stream for the next 1-2 days; (55% M, 10% X) probability of M / X flares for the next 1-2 days; also, occasionally some other CME can present a component toward the Earth.

Resumo

07/10 – "Flares" M1.3, X2.1, X1.0; Vento rápido (≤ 500 km/s); 3 CMEs podem ter componente p Terra *;
08/10 – "Flare" M1.2; Vento rápido (≤ 500 km/s); 3 CME com componente p/ Terra;
09/10 – "Flares" X1.8, M1.6, X1.4, M7.7; Vento rápido (≤ 500 km/s); 6 CME com componente p/ Terra;
10/10 – "Flares– M1.3, M1.1, M1.0, M3.0; Vento rápido (≤ 800 km/s); 2 CME podem ter componente p Terra;
11/10 – "Flares" M1.4, M2.1; Vento rápido (≤ 800 km/s); 9 CME podem componente p Terra;
12/10 – Sem "Flare" M/X; Vento rápido (≤ 700 km/s); 5 CME com componente p Terra;
13/10 – Sem "Flare" M/X; Vento rápido (≤ 550 km/s); 4 CME podem ter componente p/ a Terra;
14/10 – "Flare" M3.4; Vento rápido (≤ 450 km/s); 6 CME podem ter componente para a Terra
Prev.: Sem vento rápido para os próximo(s) 1-2 dia(s); probabilidade de "flares" M/X (55% M, 10% X) para os próximos 02 dias; eventualmente alguma(s) outra(s) CME pode(m) apresentar componente dirigida para a Terra.



Solar - WSA-ENLIL

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

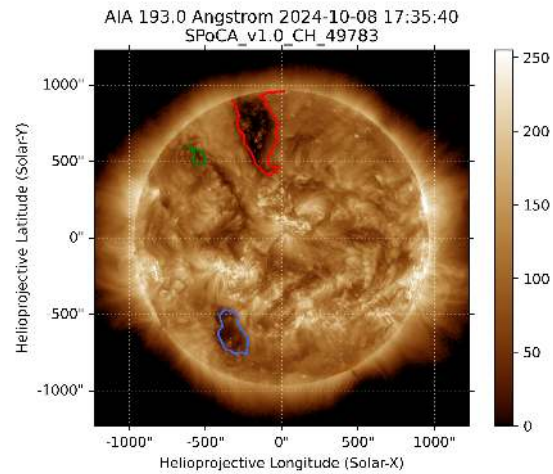
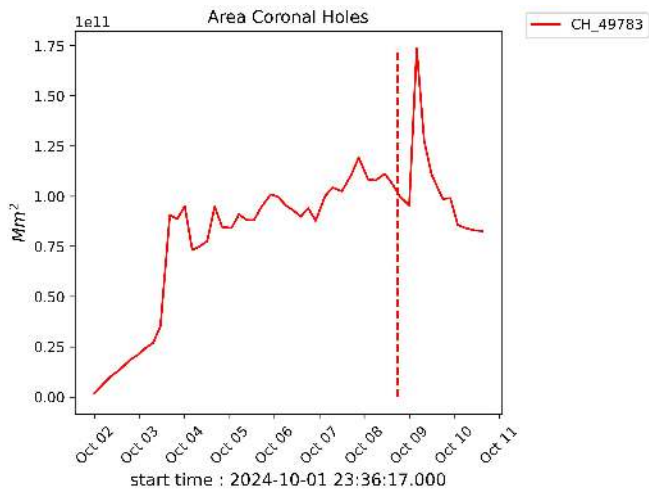
WSA-ENLIL(CME 2024-10-08 06:12:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-10-10 21:00:00 UT and 2024-10-11 11:00:00 UT.

WSA-ENLIL(CME 2024-10-09 02:12:00 UT)

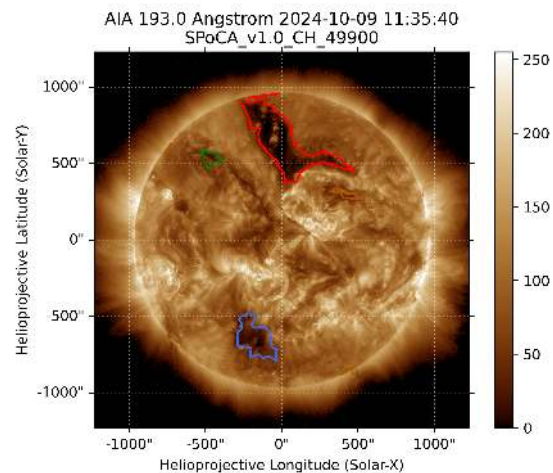
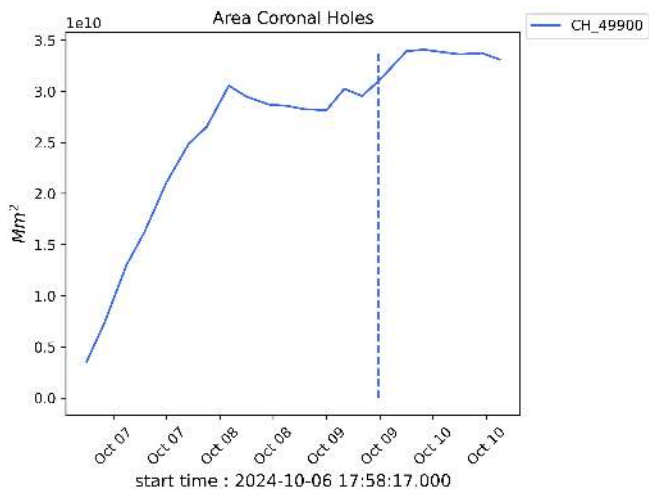
The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-10-10 07:55:00 UT and 2024-10-10 21:55:00 UT.

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 September 30 and October 10, 2024.

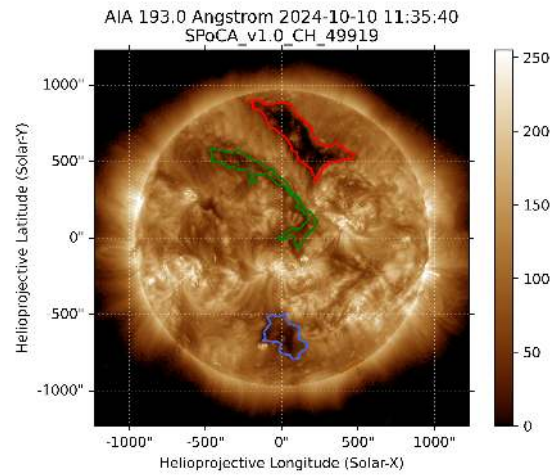
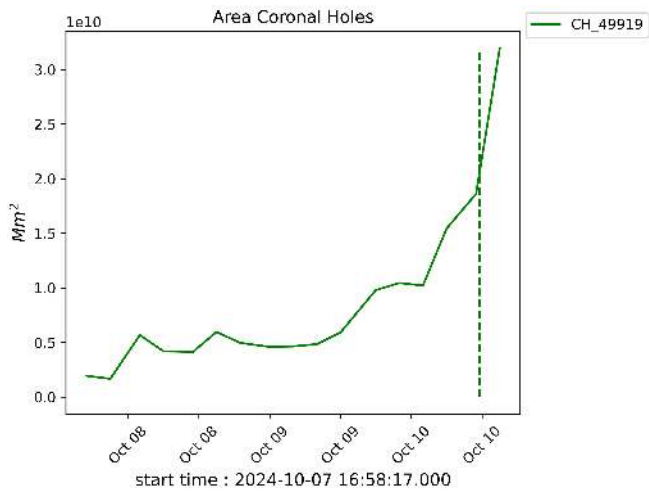
(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 17:35 UT on October 08, 2024 (red dot line).



(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between September 30 and October 10, 2024.

(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 11:35 UT on October 09, 2024 (blue dot line).

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 September 30 and October 10, 2024.

(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 11:35 UT on October 10, 2024 (magenta dot line).

EARTH'S RADIATION BELT

Responsible: Ligia Da Silva

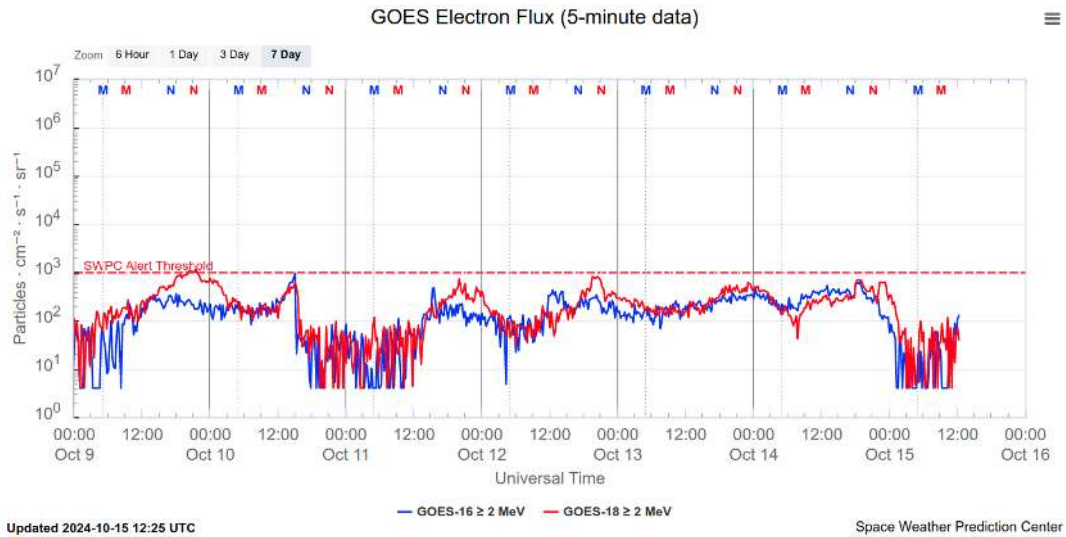


Figure 1: High-energy electron flux (> 2MeV) obtained from GOES-16 and GOES-18 satellite. Source: <https://www.swpc.noaa.gov/products/goes-electron-flux>

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 below 10^3 particles/(cm² s sr) throughout the analyzed period. Dropouts are observed on October 10th and 15th. The variability of electron fluxes is associated with the arrival of solar wind structures in the magnetosphere.

Ionosphere – Digisonde (Laysa Resende)

Summary

This week, we observed spread F in São Luís, a region close to the magnetic equator. In Cachoeira Paulista, spread F was recorded on October 7, 10, and 12, coinciding with the detection of the nocturnal E region on the same days. Additionally, the auroral trace associated with particle precipitation was noted on October 7, 10, and 12 (Figure 1).

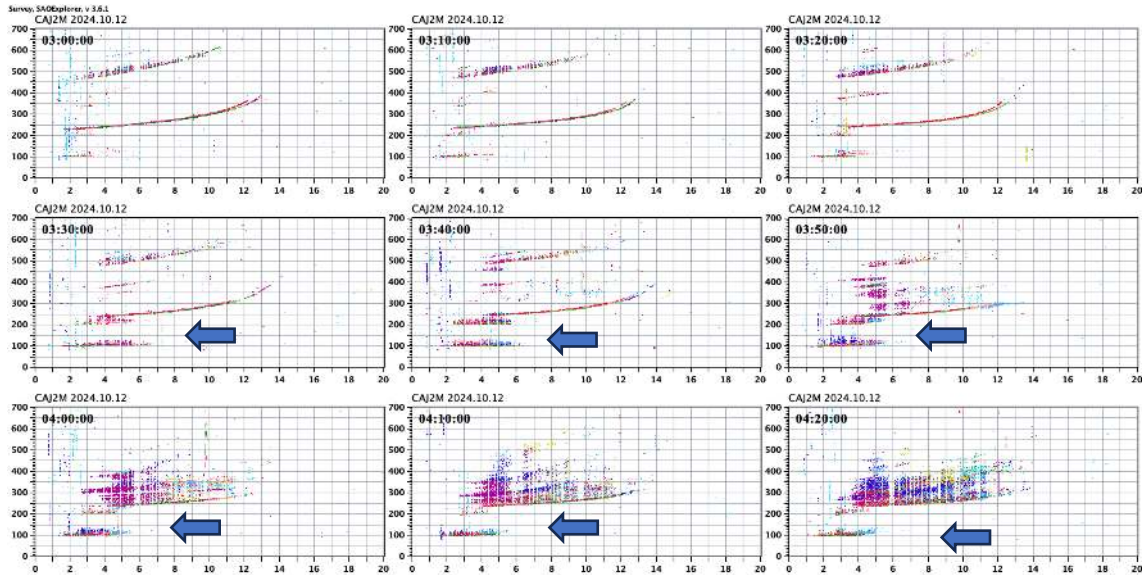


Figure 1 – Sequence of ionograms over Cachoeira Paulista, showing the Es layer.

Ionosphere - ROTI Summary for Week 2335 (October 6 to 12, 2024)

Carolina de Sousa do Carmo

In the week 2335 (October 6 to 12, 2024), ionospheric irregularities (plasma bubbles) were observed on all nights, except on the night of October 7th. The Figure below shows the ROTI time series for three stations in the Brazilian sector (Bacabal (MABB), São Luis (SALU), Cuiaba (CUIB), and São José dos Campos (SJSP)).

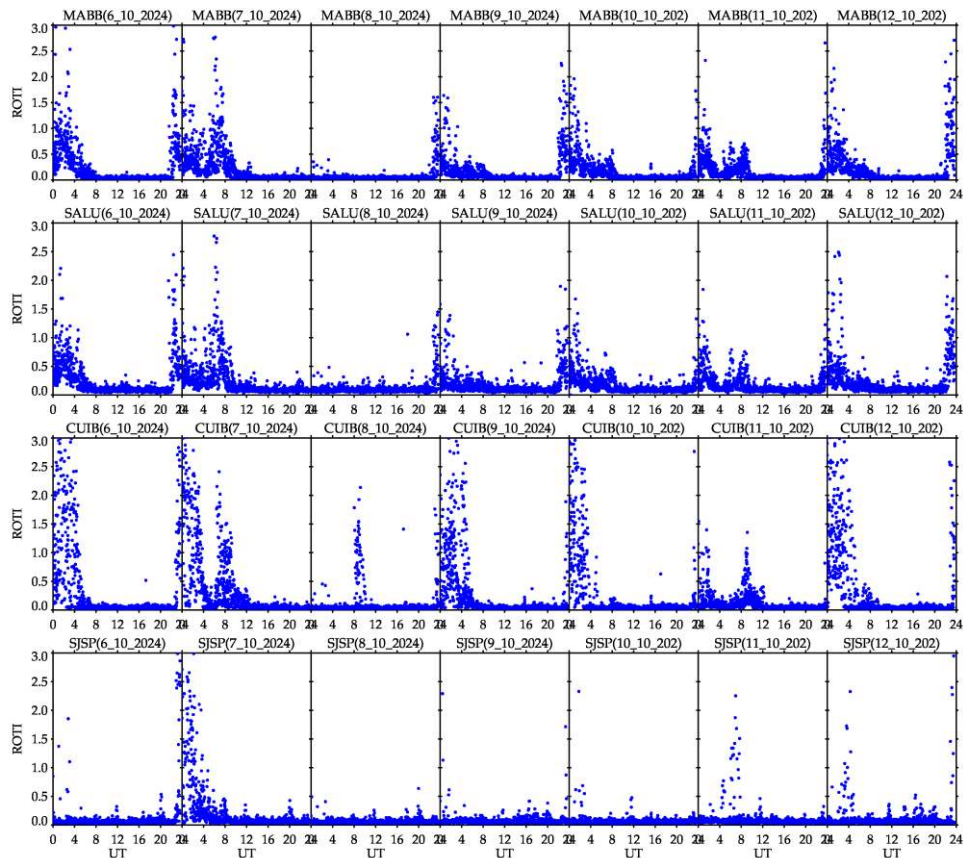


Figure – ROTI time series for three stations in the Brazilian sector (Bacabal (MABB), São Luis (SALU), Cuiaba (CUIB), and São José dos Campos (SJSP)), from October 6 to 12, 2024.