Sun summary, 2025, Sept. 08-15 - Cecatto

09/08 – No M/X flare; Fast (=< 600 km/s) wind stream; No CME can have component toward the Earth;

09/09 – No M/X flare; Fast (=< 600 km/s) wind stream; 7 CME can have component toward the Earth;

09/10 – No M/X flare; Fast (=< 550 km/s) wind stream; 1 CME can have component toward the Earth;
09/11 – No M/X flare; Fast (=< 500 km/s) wind stream; 11 CME can have component toward the Earth;
09/12 – No M/X flare; Fast (=< 450 km/s) wind stream; 5 CME can have component toward the Earth;
09/13 – No M/X flare; No fast wind stream; 6 CME can have component toward the Earth;
09/14 – No M/X flare; Fast (=< 600 km/s) wind stream; 4 CME can have component toward the Earth;
09/15 – No M/X flare; Fast (=< 750 km/s) wind stream; 2 CME can have component toward the Earth.

For.: Fast wind stream for the next 1-2 days; for while (25% M, 01% X) probability of M / X flares for the next 2 days; also, occasionally some other CME can present a component toward the Earth.

Resumo Sol, 08-15 set., 2025 - Cecatto

08/09 – Sem "Flare" M/X; Vento rápido (=< 600 km/s); Sem CMEs podem ter componente p/ Terra;

09/09 – Sem "Flare" M/X; Vento rápido (=< 600 km/s); 7 CME podem ter componente p/ Terra;
10/09 – Sem "Flare" M/X; Vento rápido (=< 550 km/s); 1 CME podem ter componente p/ Terra;
11/09 – Sem "Flare" M/X; Vento rápido (=< 500 km/s); 11 CME podem ter componente p/ Terra;
12/09 – Sem "Flare" M/X; Vento rápido (=< 450 km/s); 5 CME podem componente p/ Terra;
13/09 – Sem "Flare" M/X; Sem vento rápido; 6 CME podem ter componente p/ Terra;
14/09 – Sem "Flare" M/X; Vento rápido (=< 600 km/s; 4 CME podem ter componente p/ a Terra;
15/09 – Sem "Flare" M/X; Vento rápido (=< 750 km/s; 2 CME pode ter componente p/ a Terra.

Prev.: Vento rápido para o(s) próximo(s) 1-2 dia(s); probabilidade de “flares” M/X (25% M, 01% X) para os próximos 02 dias; eventualmente alguma(s) outra(s) CME pode(m) apresentar componente dirigida para a Terra.

Interplanetary Medium – IM – Daniele da S. F. Medeiros and Paulo R. Jauer
Period: September 8th to September 15th.

Summary

Summary of IM conditions for the last week. The interplanetary medium region in the last week showed a moderate level of plasma disturbances due to the possible interaction of HSS structures identified by the DSCOVR satellite in the interplanetary medium.

- The magnitude of the interplanetary magnetic field component peaked on September 14th at 23:30 UT at +17.75 nT due to HSS.

- The BxBy components presented variations in the analyzed period, keeping both oscillating within the interval [-10.66, +11.06] nT. Showing six rotations of the By component, the one on September 14th was associated with the HSS.

- The Bz component presents negative values for most of the week with a maximum negative -13.70 nT at 23:30 UT on September 14th. It presented positive value of +11.62 nT on September 14th at 18:30 UT.

- The solar wind density maximum peaked on September 14th at 18:30 UT at 20.77 protons/cm^\3.

- The solar wind speed fluctuated between 326 to 707 km/s, with an increase on September 14th starting at 12:30 UT due to HSS.

- The magnetopause position remained relaxed almost throughout the analyzed period, reaching maximum compression (8.07 RE) at 23:30 UT on September 14th.

Figure 1 ilustrates a set of parameters observed in the solar wind by the DSCVR satellite. The measured solar wind parameters can be identified in the following order starting in column 1: Interplanetary magnetic field modulus (IMF), the Bx and By components, Bz component, convection electric field Ey. Column 2: Solar wind density, speed, temperature and the last graph represents the position of the subsolar magnetopause.

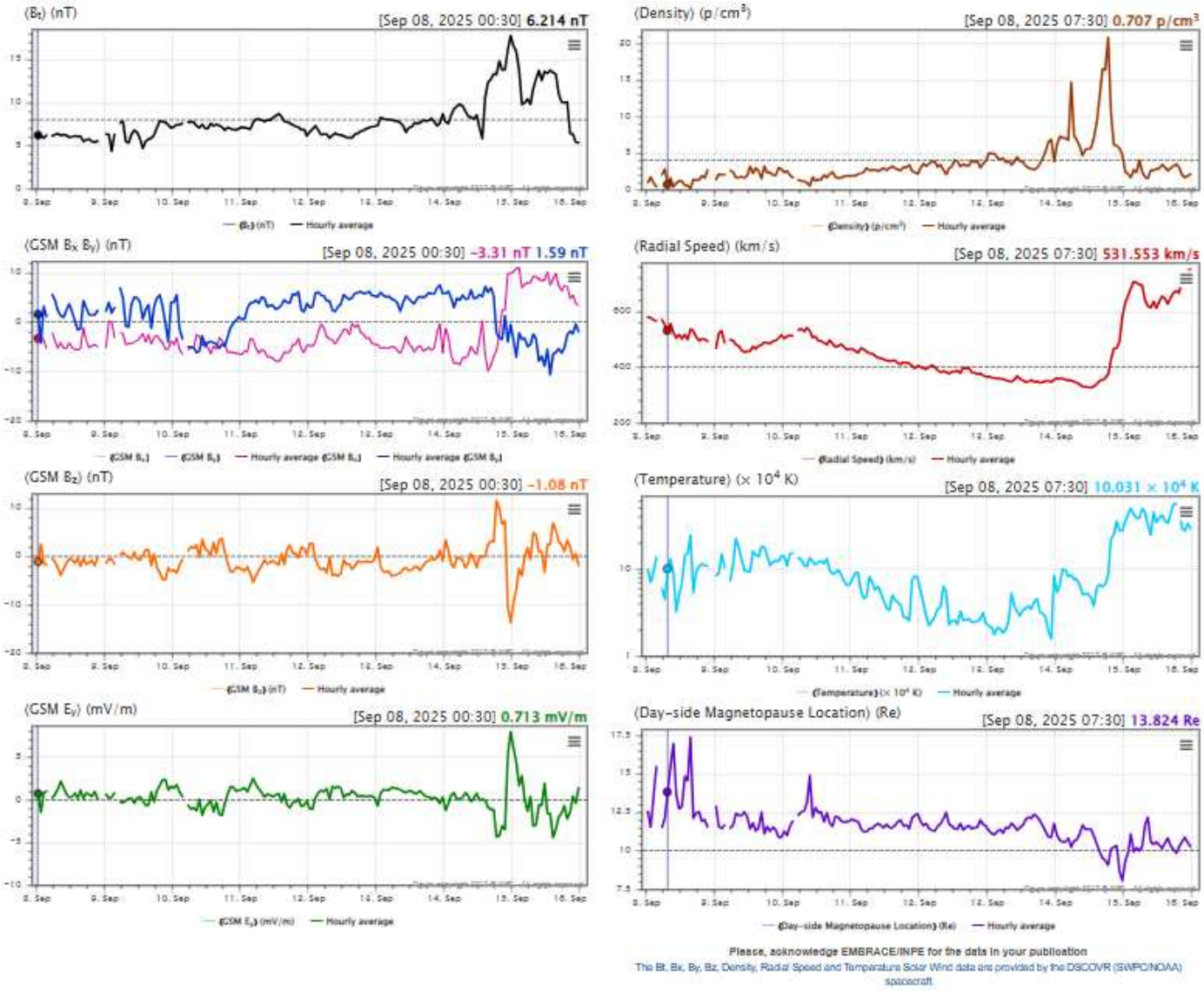

Figure 1: Illustrates a set of parameters observed in the solar wind by the DSCVR satellite.

Responsible: Ligia Da Silva

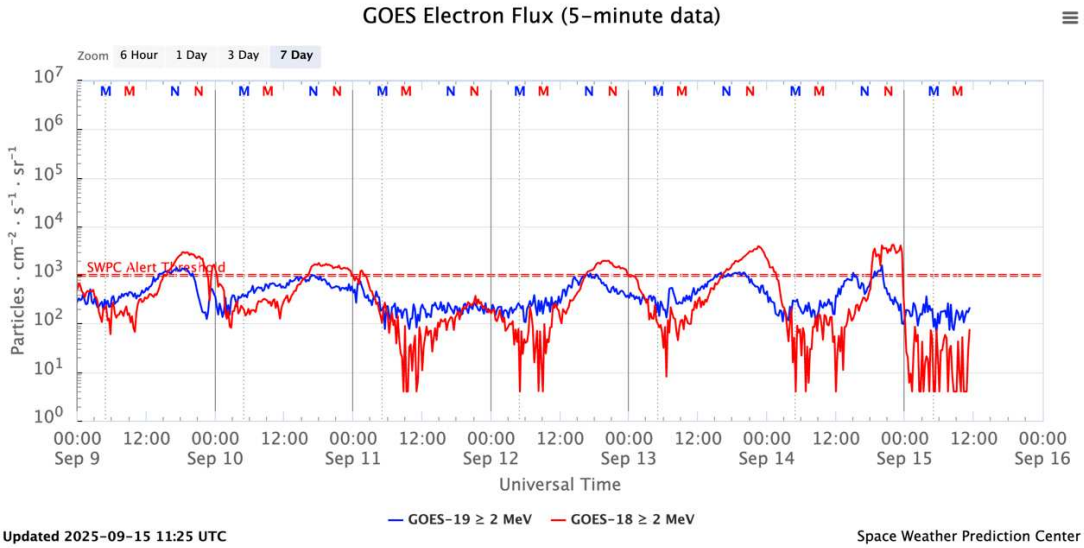

Figure 1: High-energy electron flux (> 2MeV) obtained from GOES-16 and GOES-18 satellite. Source: https://www.swpc.noaa.gov/products/goes-electron-flux.

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) was below 10^3 particles/(cm^2 s sr) almost the entire week. Three dropouts were observed, in which by the end of September 14th the electron flux had decreased by more than two orders of magnitude.

Ionosfera – Digissonda (Laysa Resende)

Summary

This week, the F-region spread was observed in São Luís. In Cachoeira Paulista, no spread F was detected, while in Boa Vista it was observed only from September 10 onward. Unusual Es layers were identified in Cachoeira Paulista on September 12 (Es4 index) and September 14 (Es3 index). In Boa Vista, an anomalous Es layer was recorded on September 13 (Es3 index). The Maximum Usable Frequency (MUF) showed normal variation over the Brazilian sector.

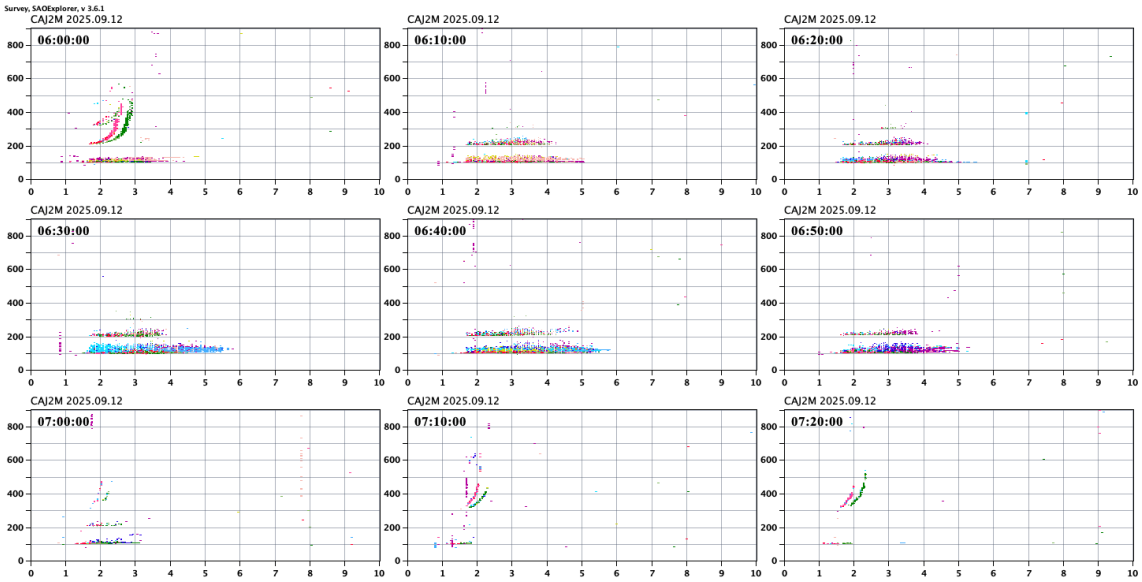

Figure 1 – Ionogram over Cachoeira Paulista, showing the spreading Es layer.