SOL (Cecatto)

Summary – Week November 06 to November 13

Summary

11/06 – No M/X flare; Fast (=< 600 km/s) wind stream; 4 CME can have component toward the Earth *;
11/07 – No M/X flare; Fast (=< 500 km/s) wind stream; 4 CME can have component toward the Earth;
11/08 – No M/X flare; Fast (=< 750 km/s) wind stream; 3 CME can have component toward the Earth;
11/09 – No M/X flare; Fast (=< 500 km/s) wind stream; 3 CME can have component toward the Earth *;
11/10 – No M/X flare; Fast (=< 600 km/s) wind stream; 3 CME can have component toward the Earth *;
11/11 – Flares M1.2; Fast (=< 600 km/s) wind stream; 5 CME can have component toward the Earth;
11/12 – No M/X flare; Fast (=< 600 km/s) wind stream; 5 CME can have component toward the Earth;
11/13 – No M/X flare; Fast (=< 450 km/s) wind stream; No CME toward the Earth
Prev.: No fast wind stream for today and next 1-2 days; for while low (45% 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 06 a 13 de Novembro

06/10 – Sem "flare" M/X; Vento rápido (< 600 km/s); 4 CME podem ter uma componente para a Terra *;
07/10 – Sem "flare" M/X; Vento rápido (< 500 km/s); 4 CME podem ter uma componente para a Terra;
08/11 – Sem "flare" M/X4; Vento rápido (< 750 km/s); 3 CME podem ter uma componente para a Terra;
09/11 – Sem "flare" M/X; Vento rápido (< 500 km/s); 3 CME podem ter uma componente para a Terra *;
10/11 – Sem "flare" M/X; Vento rápido (< 600 km/s); 3 CME podem ter uma componente para a Terra *;
11/11 – "Flares" M1.2; Vento rápido (< 600 km/s); 5 CME podem ter uma componente para a Terra;
12/11 – Sem "flare" M/X; Vento rápido (< 600 km/s); 5 CME podem ter uma componente para a Terra;
13/11 – Sem "flare" M/X; Vento rápido (< 450 km/s); Sem CME dirigida para a Terra
Prev.: Vento rápido para hoje e próximos 1-2 dias; baixa probabilidade de "flares" (45% M, 05% X) nos próximos 02 dias; eventualmente alguma outra CME pode apresentar componente dirigida para a Terra.

Meio interplanetário – IM – Paulo Ricardo Jauer 06/11 to 13/11 2023

Summary

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

• The magnitude of the interplanetary magnetic field component showed two significant peaks on November 6-13 at 02:30 UT and at 03:30 UT of 17.7 and 10.7 nT during the analyzed period.

• The BxBy components showed variations in the analyzed period, keeping both oscillating within the range BxBy[(Min,Max); (Min,Max)] [(-13.7; 10.45);(-14.4; 7.83)] nT, without the clear presence of crossing boundary sector.

• The bz field component presented a maximum negative peak on November 6th at 08:30 UT of – 7.9 nT. The bz component presented a positive value on November 6th at 12:30 UT 9.66 nT.

• The density of the solar wind showed fluctuations with a maximum peak recorded on 13/Nov at 11:30 am of 30 p/cm³. During the remainder of the period, the density fluctuated on average below 12 p/cm³.

• The average speed of the solar wind remained on average below 450 km/s. The speed had a maximum value on 08/Nov at 13:30 UT of 733 km/s and a minimum value on 13/Nov at 12:30 UT of 399 km/s. Discontinuities in the velocity component were found due to interactions of interplanetary structures.

• The position of the magnetopause fluctuated on average above the equilibrium positions. He presented compressions whose minimum value was recorded on: November 12th at 11:30 pm of 7.79 Re.

Figure 1 - illustrates a set of parameters observed in the solar wind by the DSCOVR 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, solar wind density, speed, temperature and the last graph represents the position of the subsolar magnetopause. Note that some profile are repeated in column 2.

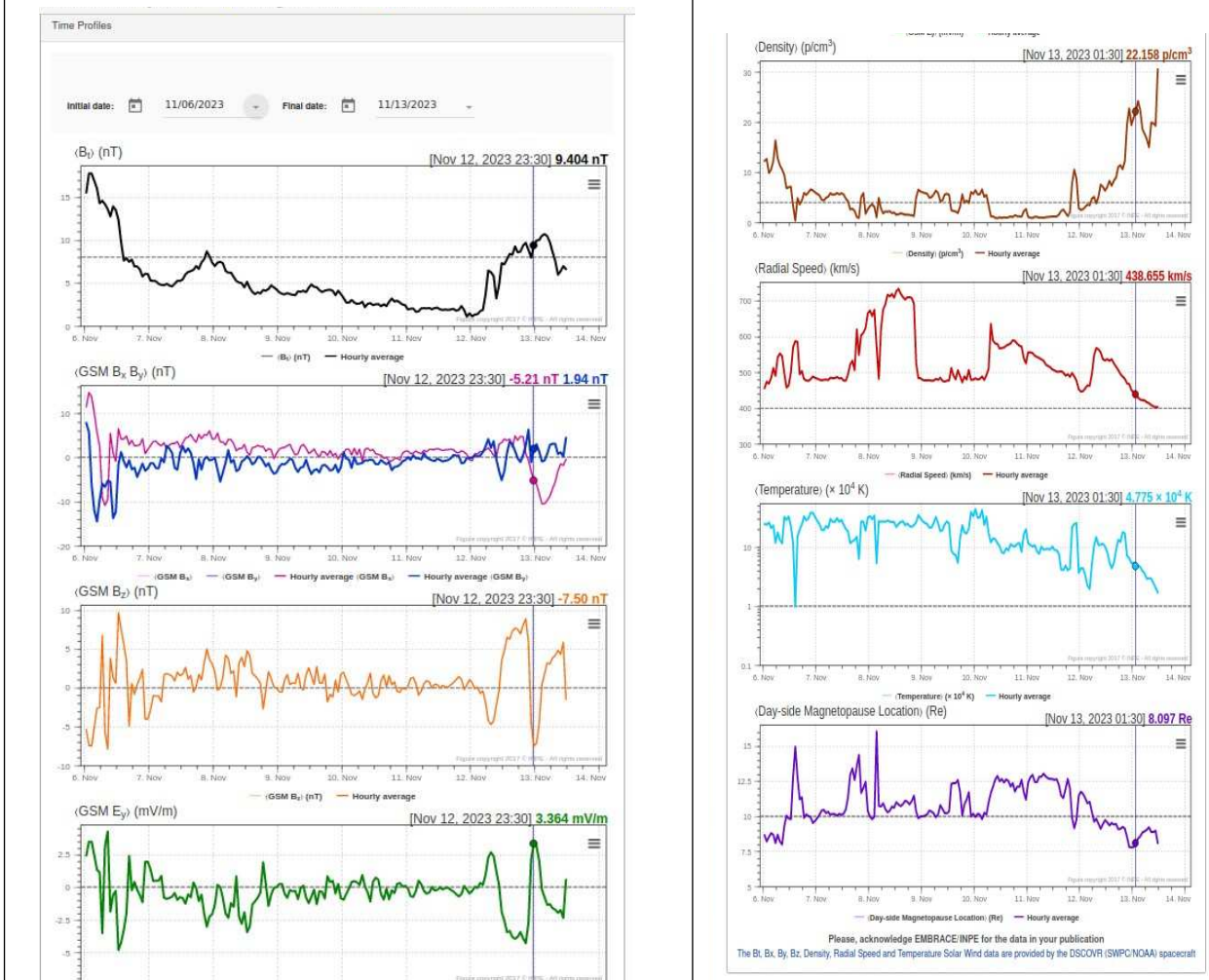
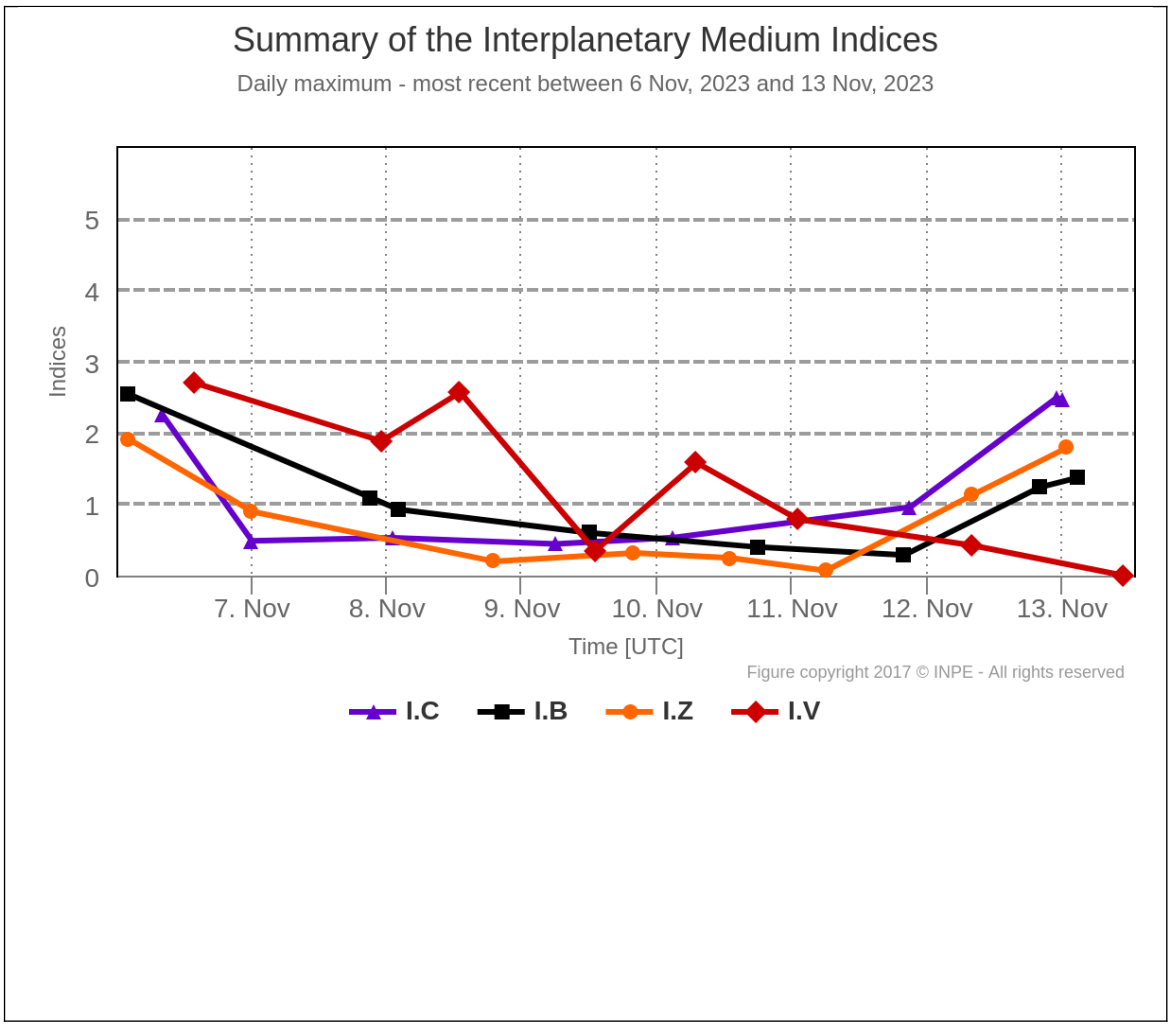


Figure 1 – illustrates a set of parameters observed in the solar wind by the DSCOVR satellite.

Figure 3- illustrates a set of parameters/indices that represents the response to the interplanetary medium conditions and the global magnetosphere. The parameters are the compression of the magnetopause (I.C), the modulus of the interplanetary magnetic field (I.B), the Variation of the Bz component of the IMF (I.Z) and finally an index that responds to variations in the speed of the Solar wind (I.V).



Ionosfera – Digissonda (Laysa Resende)

Summary

We observed the F spread-F in Fortaleza and Cachoeira Paulista (Figure 1) every day during this week (Figure 1). The Es layers reached a maximum of scale 4 in Cachoeira Paulista and Fortaleza.

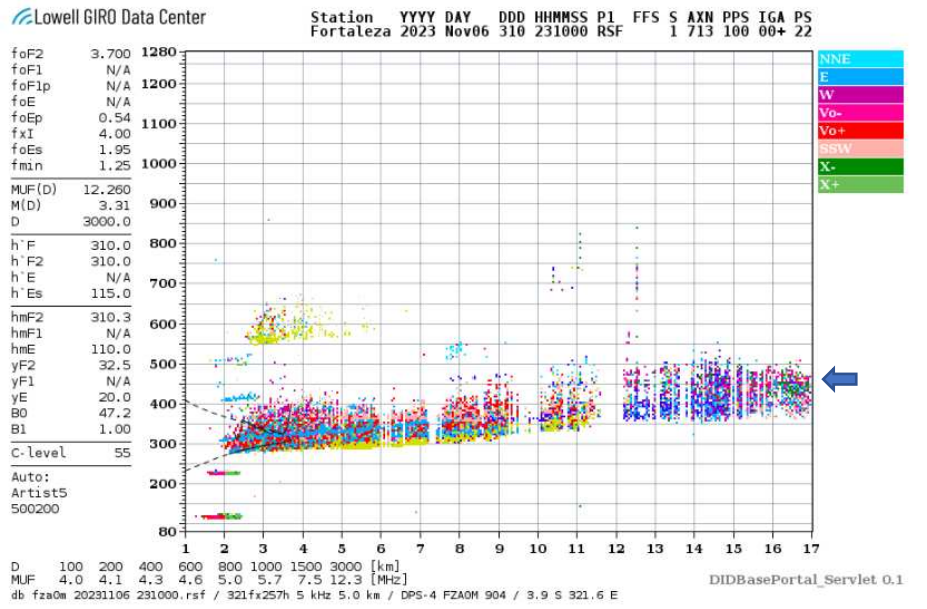


Figure 1 – Ionogram over Cachoeira Paulista, showing the spread F occurrence on November 06, 2023.

Ionosphere - ROTI
Summary for Week 2287 (November 5 to 11, 2023)

Carolina de Sousa do Carmo

In the week 2287 (November 5 to 11, 2023) there were ionospheric irregularities (plasma bubbles) on all nights analyzed, except for the night of the 5th-6th.. 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)).

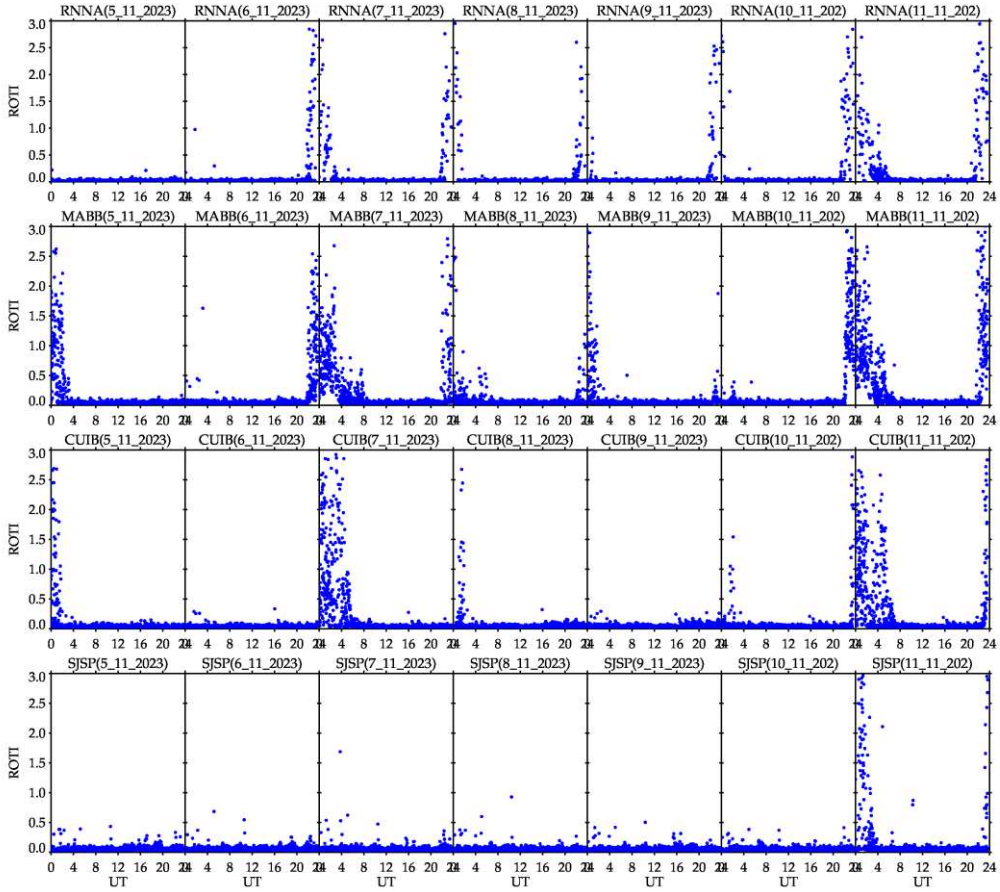


Figure – ROTI time series for four stations in the Brazilian sector (Natal (RNNA), Bacabal (MABB), Cuiabá (CUIB) and São José dos Campos (SJSP)), from November 5 to 11, 2023.