



Solar - WSA-ENLIL

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

WSA-ENLIL(CME 2024-07-16 08:48:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-20 03:00:00 UT and 2024-07-20 17:00:00 UT.

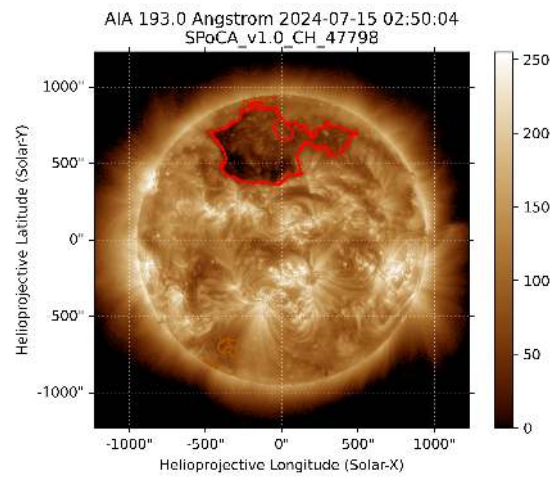
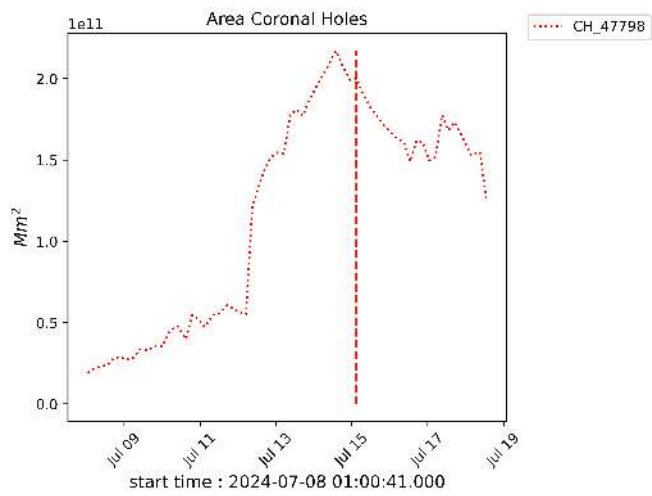
WSA-ENLIL(CME 2024-07-17 07:48:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-20 11:00:00 UT and 2024-07-21 01:00:00 UT.

WSA-ENLIL(CMEs 2024-07-19 21:36:00 UT and 2024-07-19 22:24:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-22 19:00:00 UT and 2024-07-23 09:00:00 UT.

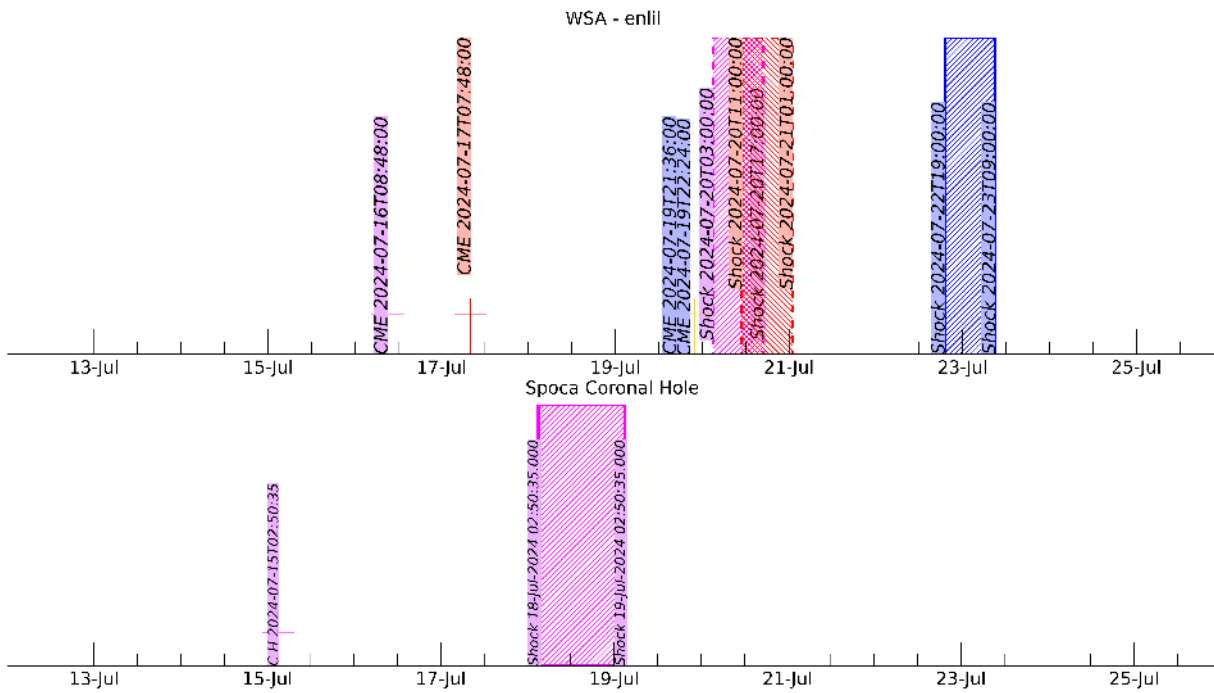
Solar - Coronal holes Spatial Possibilistic Clustering Algorithm (SPoCAS):



(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between July 08 and 18, 2024.

(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 02:50 UT on July 15, 2024 (red dot line).

Solar - WSA - ENLIL and SPoCA



EARTH'S RADIATION BELT

Responsible: Ligia Da Silva

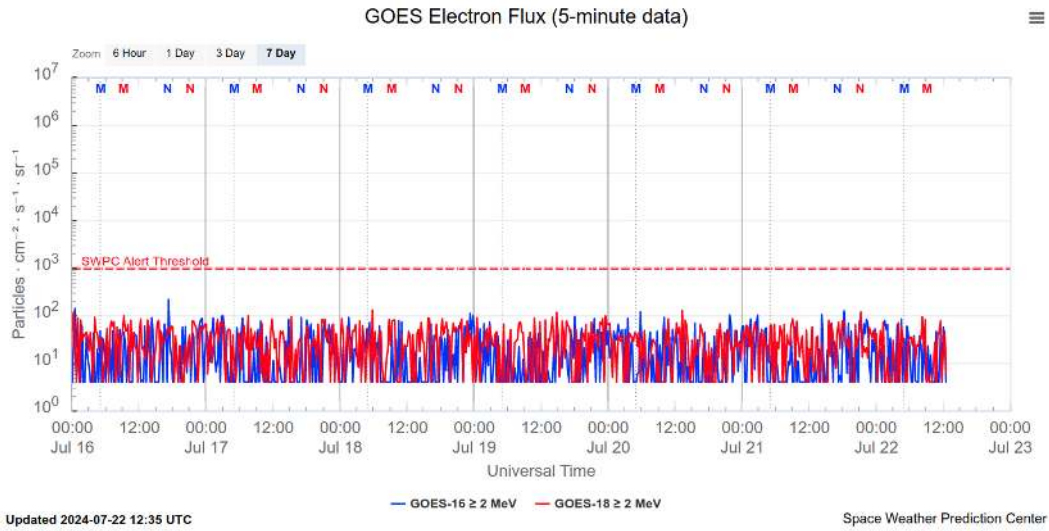


Figure 1: High-energy electron flux (> 2MeV) obtained from GOES-16 and GOES-18 satellite. Source: <https://www.swpc.noaa.gov/products/goes-electron-flux>

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 confined below 10^2 particles/(cm² s sr) during all analyzed period.

Geomagnetic Field

Responsible: Karen Sarmiento/ Lívia Alves

Summary

During the week of 07/16 to 07/22, data from the GOES satellites showed a predominance of diurnal variation in the magnetic field, with a stronger field on the dayside and a weaker field on the nightside in the geosynchronous orbit. Additionally, there was a decrease on 07/22, reaching approximately 33 nT (~8 UT), indicating increased activity in the magnetotail region. Auroral activity in both hemispheres was weak, with the AE index remaining below 500 nT for most of the observed period. There were small, short-lived oscillations with substorm signatures at specific times: between 0-1 UT on 07/16, 12-15 UT on 07/17, and 11-13 UT on 07/22. The global Kp index remained in calm magnetic field conditions until 07/22 (9-12 UT), when it reached unstable magnetic field conditions (G0). The Dst index fluctuated between slightly positive and negative values, ranging from 23 nT (on 07/16 at 18 UT) to -18 nT (on 07/22 at 10 UT). Data provided by the Embrace-Magnet program did not reveal significant variations in the magnetic field, with diurnal variation predominating at the Porto Velho (PVE) station, located in the region influenced by the Equatorial Electrojet.

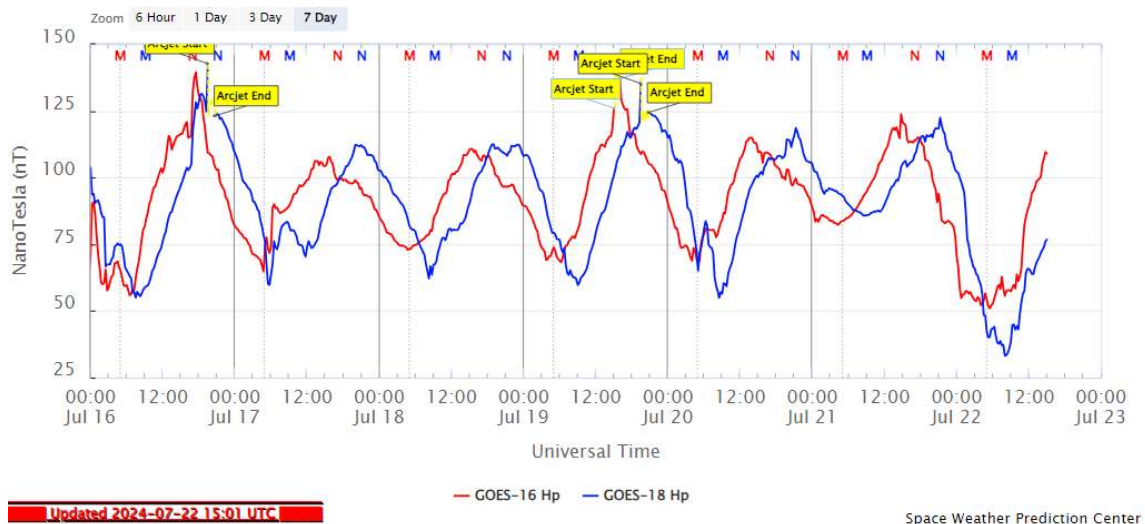


Figure 1- Magnetic field horizontal component at the GOES satellite orbit through.

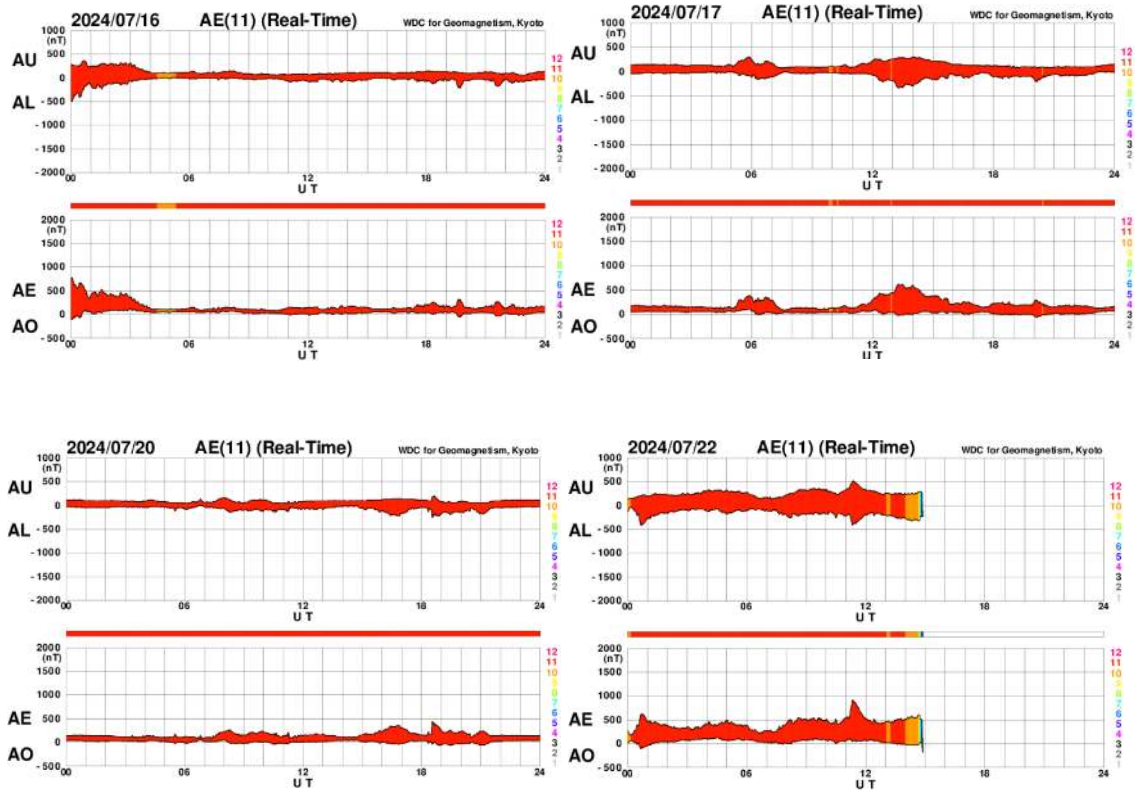


Figura 2- AE index for the days of the week with greater auroral activity.

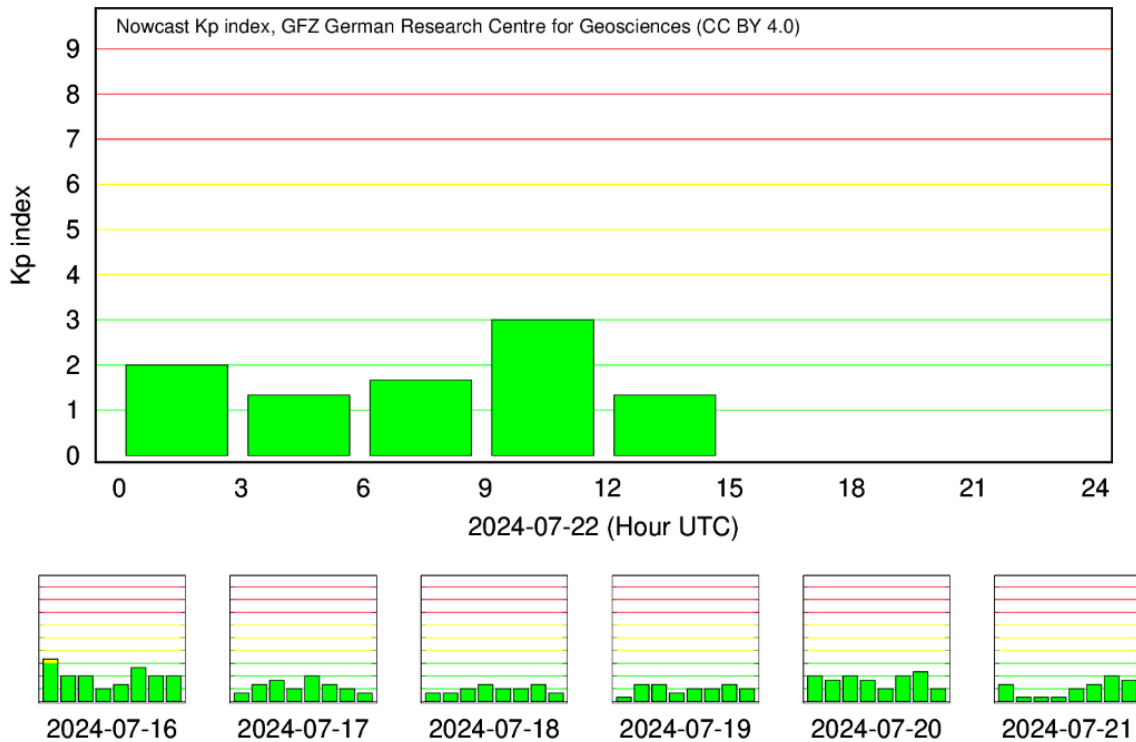


Figure 3- Kp index in logarithmic scale.

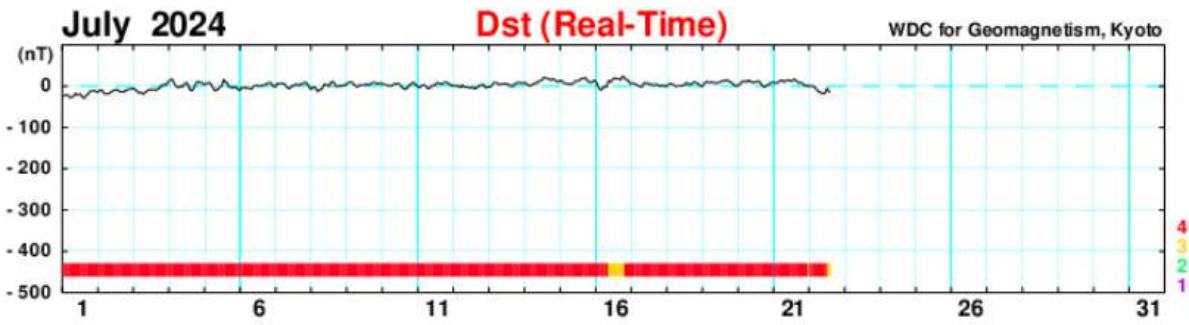


Figure 4- Dst Index

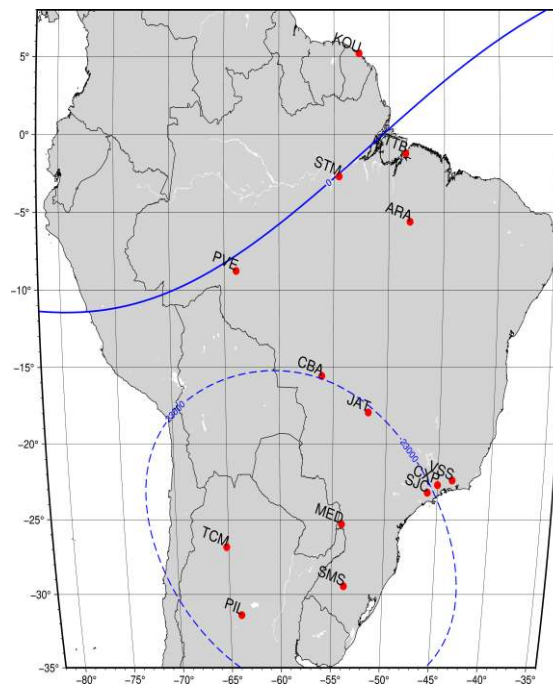
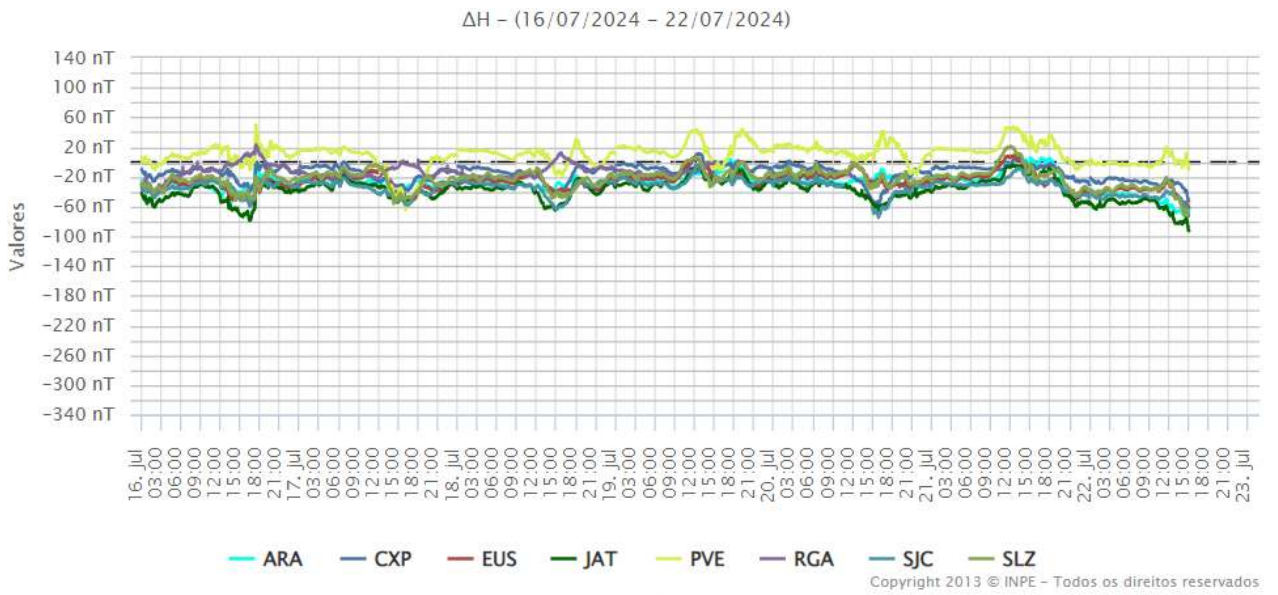


Figure 5- Daily variation of the geomagnetic field from H(nT) measured at Embrace MagNet.

Ionosphere – Digisonde (Laysa Resende)

Summary

We observed spread F in Boa Vista during this week (Figure 1). Over Cachoeira Paulista, the F region trace was typical. The Es layers were weak, reaching the scale 3.

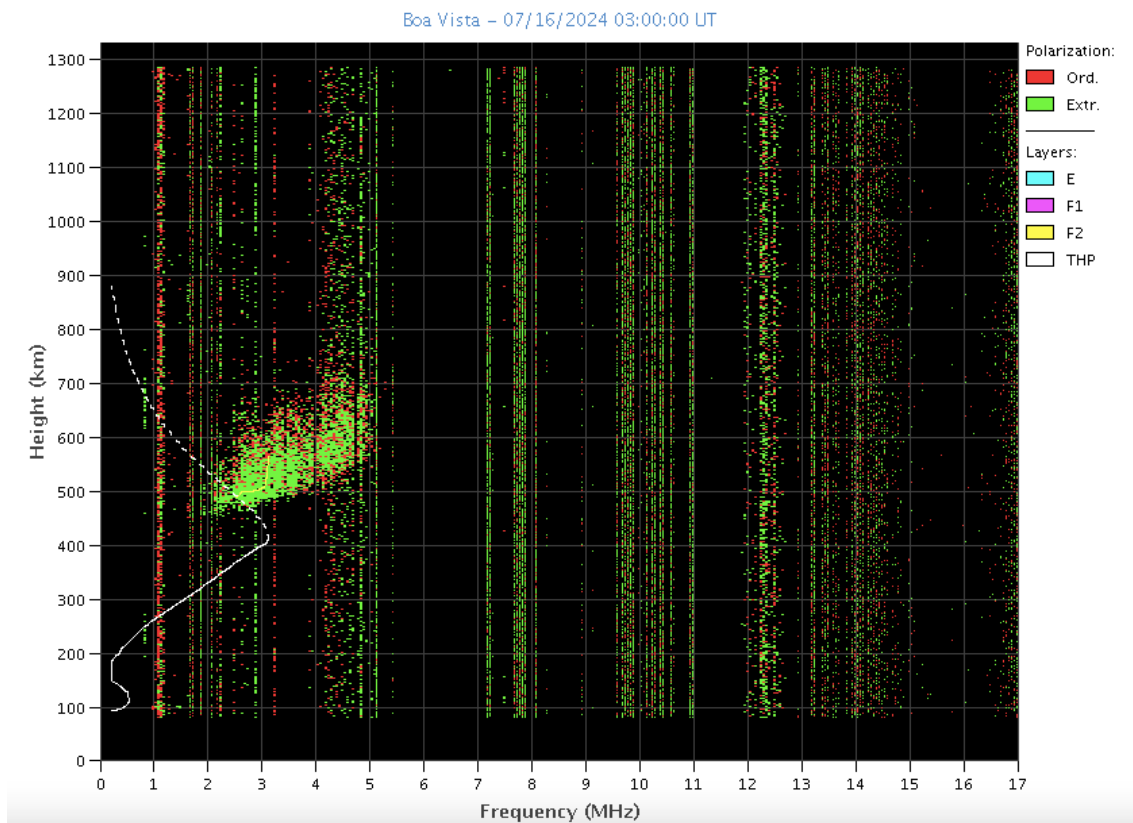


Figure 1 – Ionogram over Boa Vista, showing the spread F.

Ionosphere - ROTI Summary for Week 2323 (July 14 to 20, 2024)

Carolina de Sousa do Carmo

In the week 2323 (July 14 to 20, 2024), ionospheric irregularities (plasma bubbles) were not observed. The Figure below shows the ROTI time series for three stations in the Brazilian sector (São Luís (SALU), Bacabal (MABB), and Cuiabá (CUIB)).

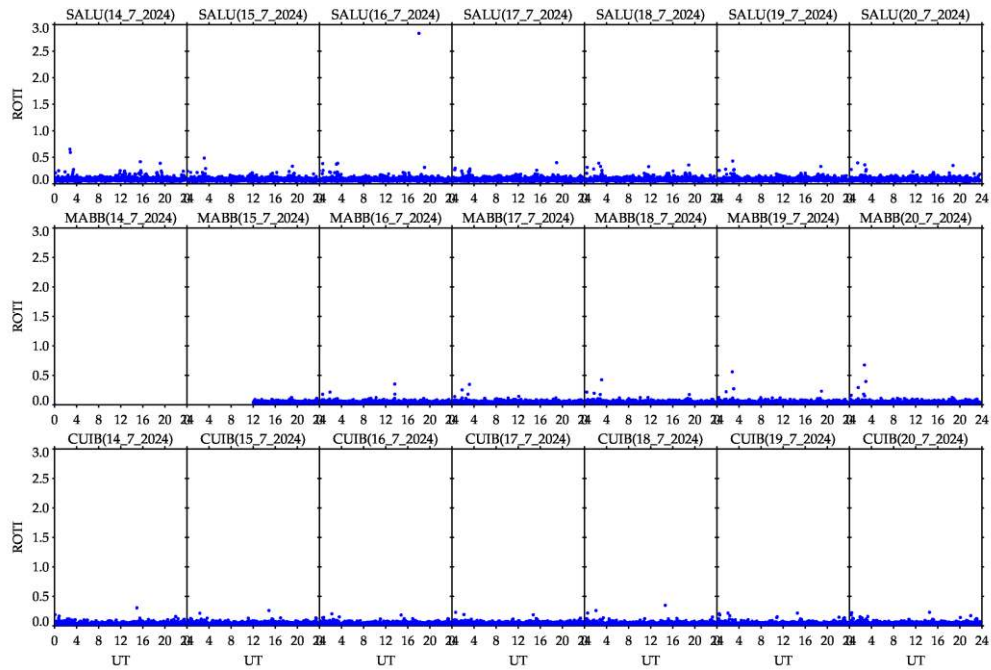


Figure – ROTI time series for three stations in the Brazilian sector (São Luís (SALU), Bacabal (MABB), and Cuiabá (CUIB)), from July 14 to 20, 2024.