



Solar - WSA-ENLIL

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

WSA-ENLIL(CME 2024-07-23 04:24:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-26 13:00:00 UT and 2024-07-27 03:00:00 UT.

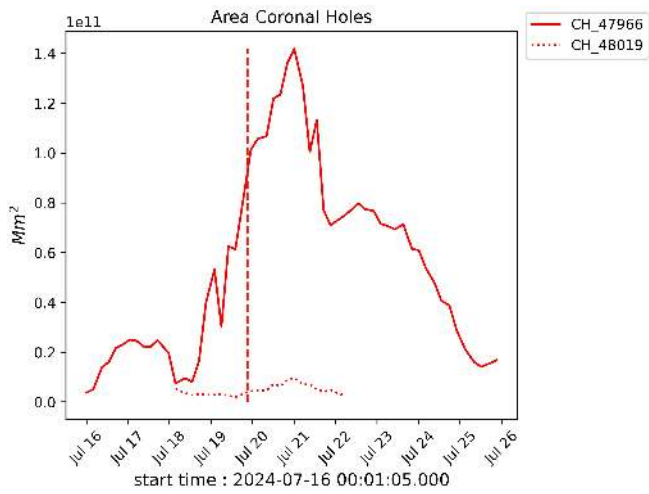
WSA-ENLIL(CME 2024-07-26 15:23:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-30 07:00:00 UT and 2024-07-30 21:00:00 UT.

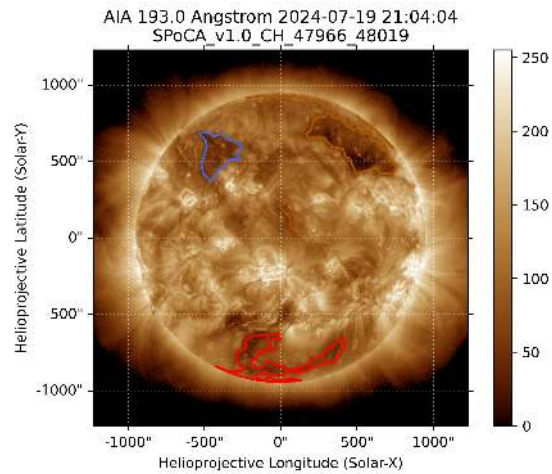
WSA-ENLIL(CME 2024-07-27 11:12:00 UT)

The simulation results indicate that the flank of CME will reach the DSCOVR mission between 2024-07-30 21:00:00 UT and 2024-07-31 11:00:00 UT.

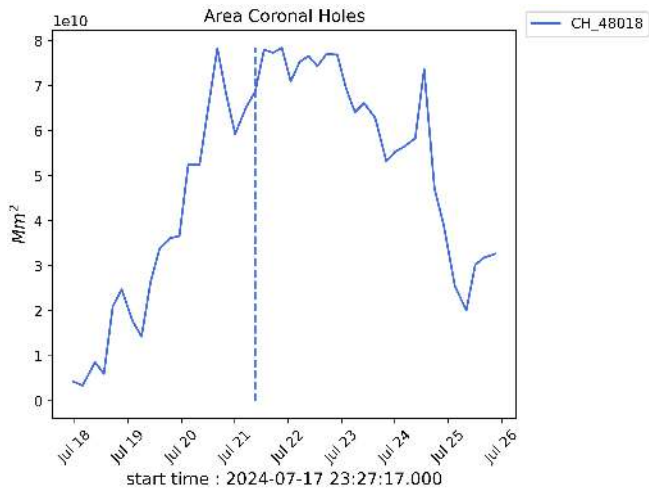
Solar - Coronal holes Spatial Possibilistic Clustering Algorithm (SPoCAS):



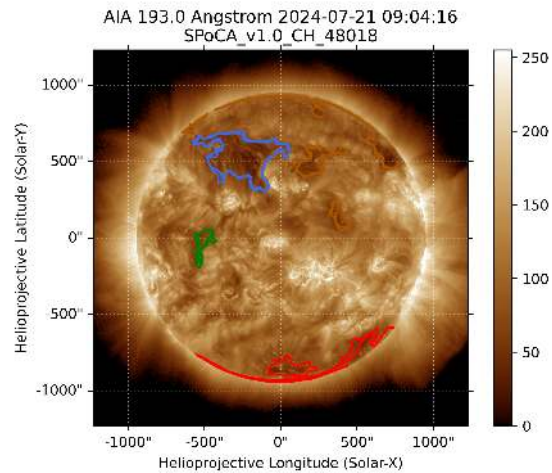
(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between July 16 and 25, 2024.



(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 21:04 UT on July 19, 2024 (red dot line).

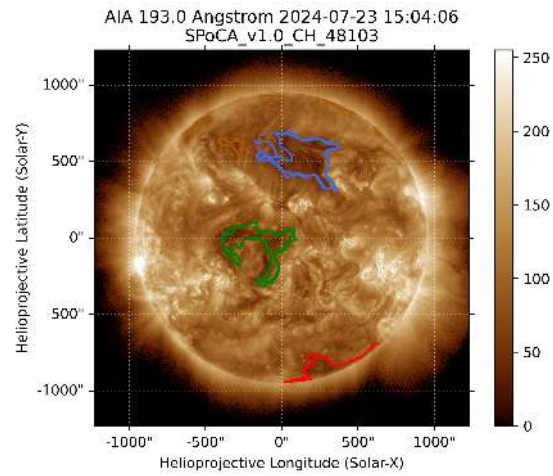
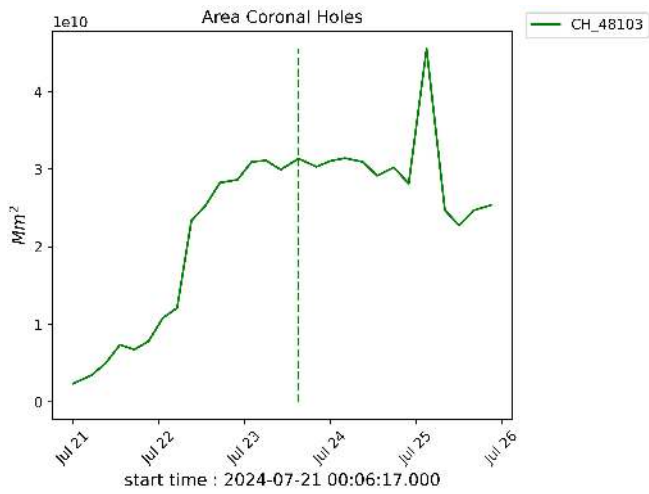


(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between July 16 and 25, 2024.



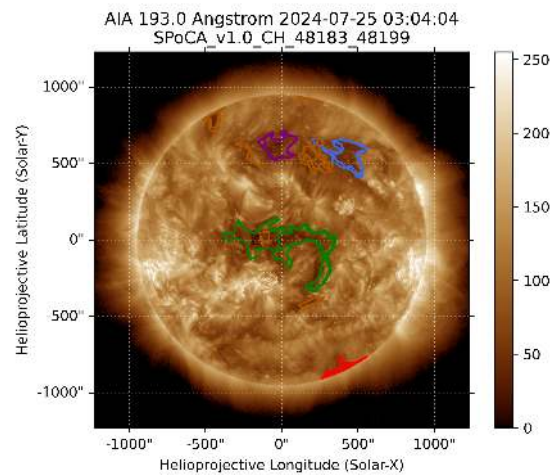
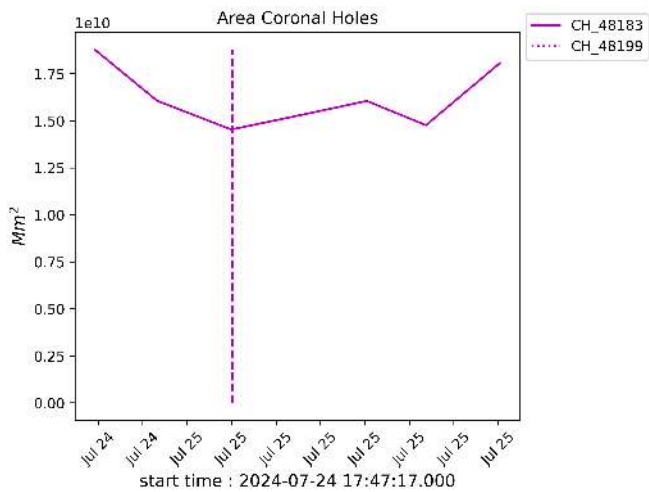
(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 09:04 UT on July 21, 2024 (blue dot line).

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 July 16 and 25, 2024.

(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 15:04 UT on July 23, 2024 (green dot line).



(a) The solid black line depicts the products of the sum of areas for each detection interval performed by SPOCA between July 16 and 25, 2024.

(b) Above the 193 Å image of the Sun are highlighted coronal holes observed by SPOCA around 03:04 UT on July 25, 2024 (purple dot line).

EARTH'S RADIATION BELT

Responsible: Ligia Da Silva

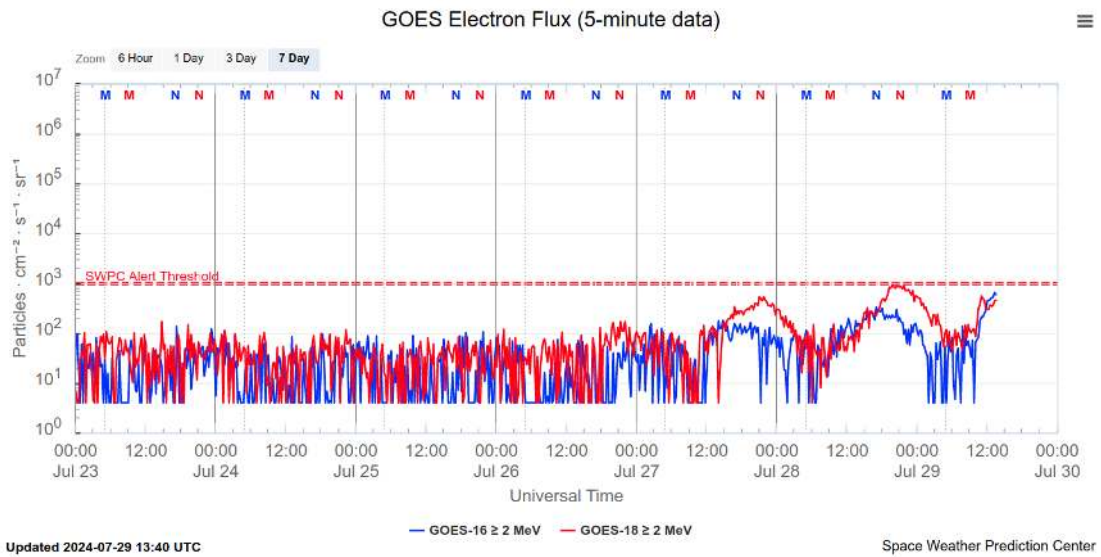


Figure 1: High-energy electron flux (> 2MeV) obtained from GOES-16 and GOES-18 satellite. Source: <https://www.swpc.noaa.gov/products/goes-electron-flux>

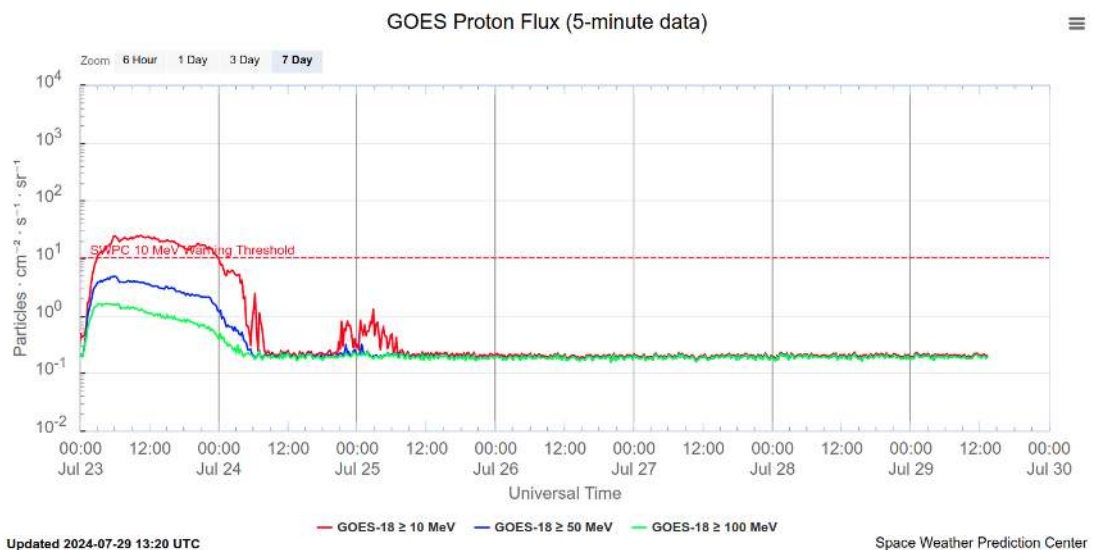


Figure 2: Proton flux ($\geq 10\text{MeV}$, $\geq 50\text{MeV}$, $\geq 100\text{MeV}$) obtained from GOES-18 satellite. Source: <https://www.swpc.noaa.gov/products/goes-proton-flux>



Summary

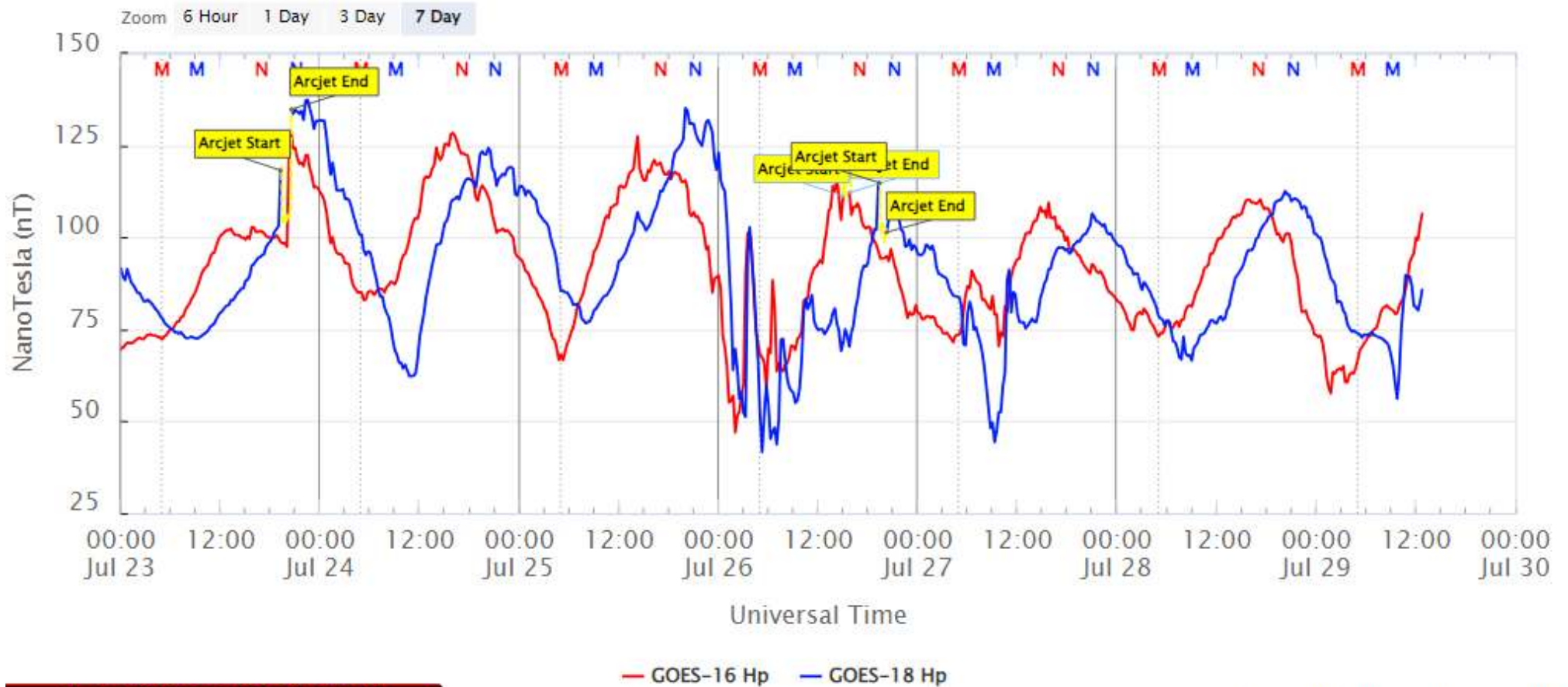
The high-energy electron flux (>2 MeV) in the outer boundary of the outer radiation belt obtained from geostationary satellite data GOES-16 and GOES-18 (Figure 1) is confined below 10^2 particles/(cm^2 s sr) almost the entire analyzed period, presenting an increase from 12:00 UT on July 27th, reaching 10^3 particles/(cm^2 s sr) on July 28th.

Proton fluxes ≥ 10 MeV, ≥ 50 MeV and ≥ 100 MeV at the outer boundary of the outer radiation belt obtained from the geostationary satellite GOES-18 (Figure 2) increased at the beginning of July 23rd. However, the proton flux ≥ 10 MeV reached values above the threshold of 10^1 particles/(cm^2 s sr), followed by a rapid decay early on July 24th, together the other energy levels. This proton flux increase is associated with the arrival of solar wind structures in the magnetosphere.

BOLETIM DE GEOMAGNETISMO 29/07

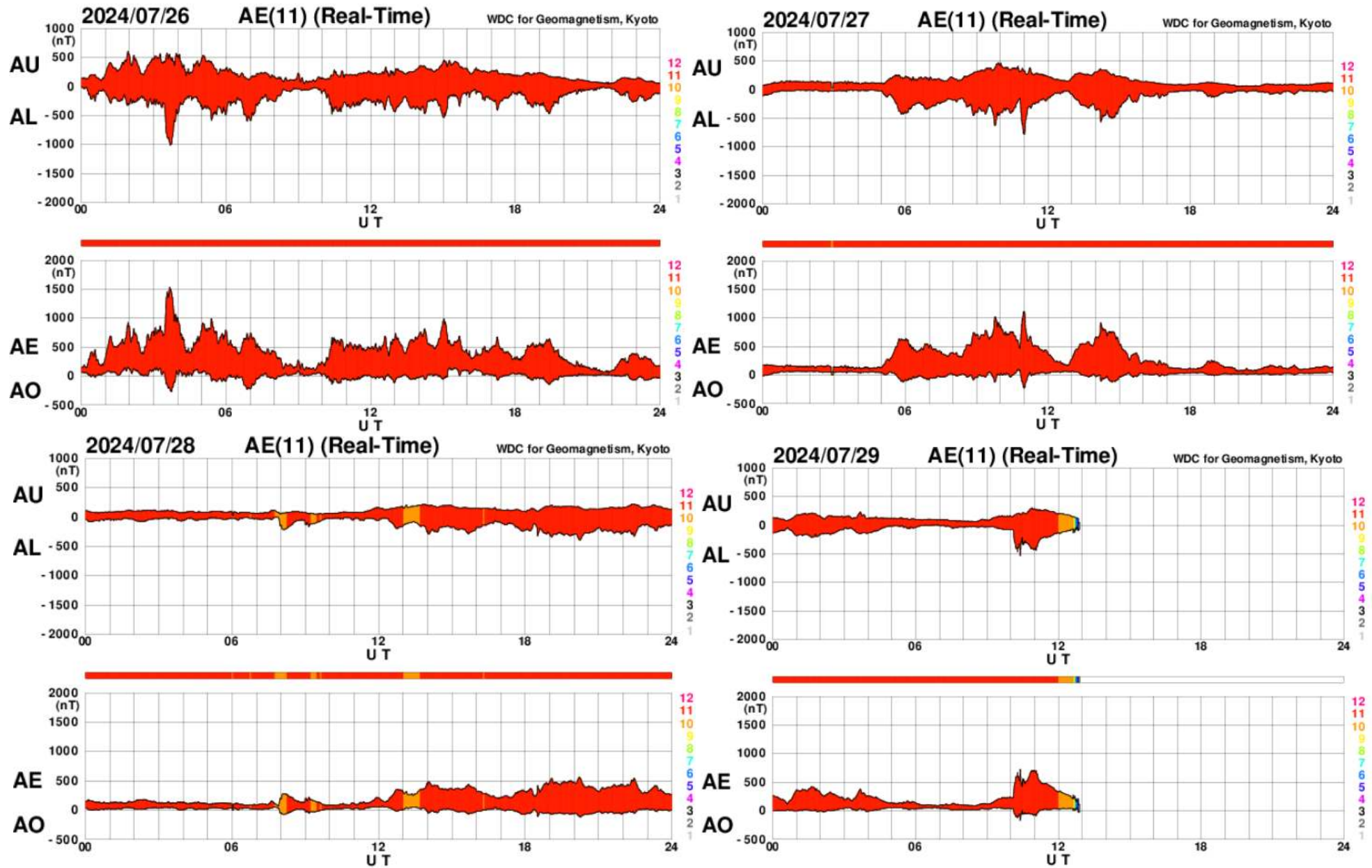
Dia	AE máximo	Kp máximo	Dst variação
26/07	<1500 nT	5o	[-51 nT,12 nT]
27/07	<1000 nT	4-	[-30 nT, -9 nT]
28/07	<500 nT	3-	[-20 nT, 1 nT]
29/07	<1000 nT	2o	[-15 nT, -2 nT] até 13 UT

- Componente Norte do campo magnético, medido nos satélites estacionários GOES (dados por minuto).

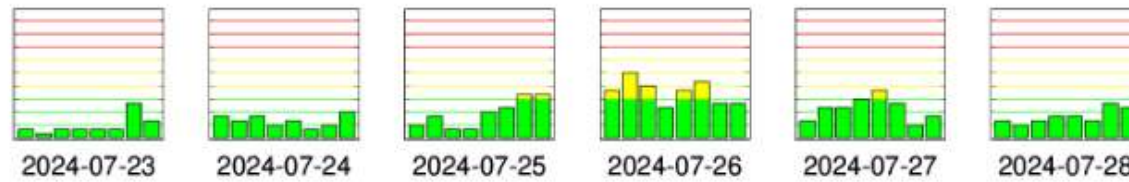
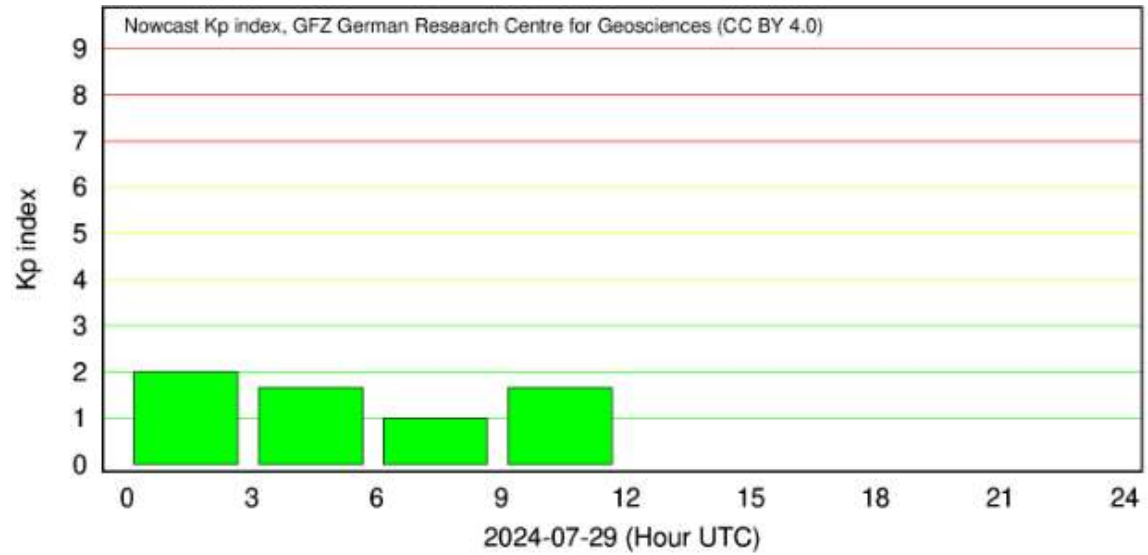


Updated 2024-07-29 12:56 UTC

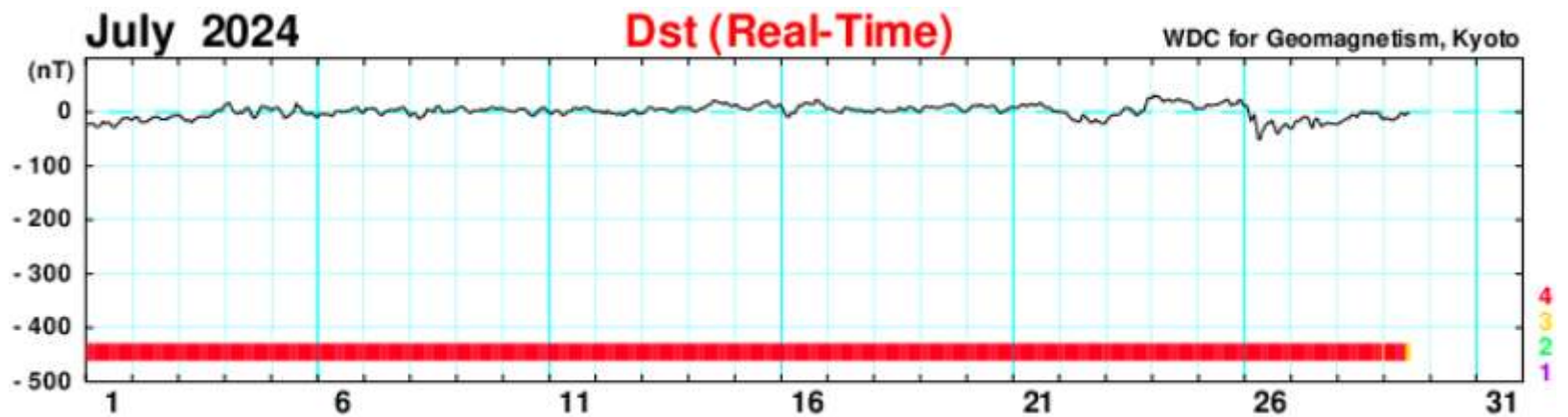
- Atividade auroral



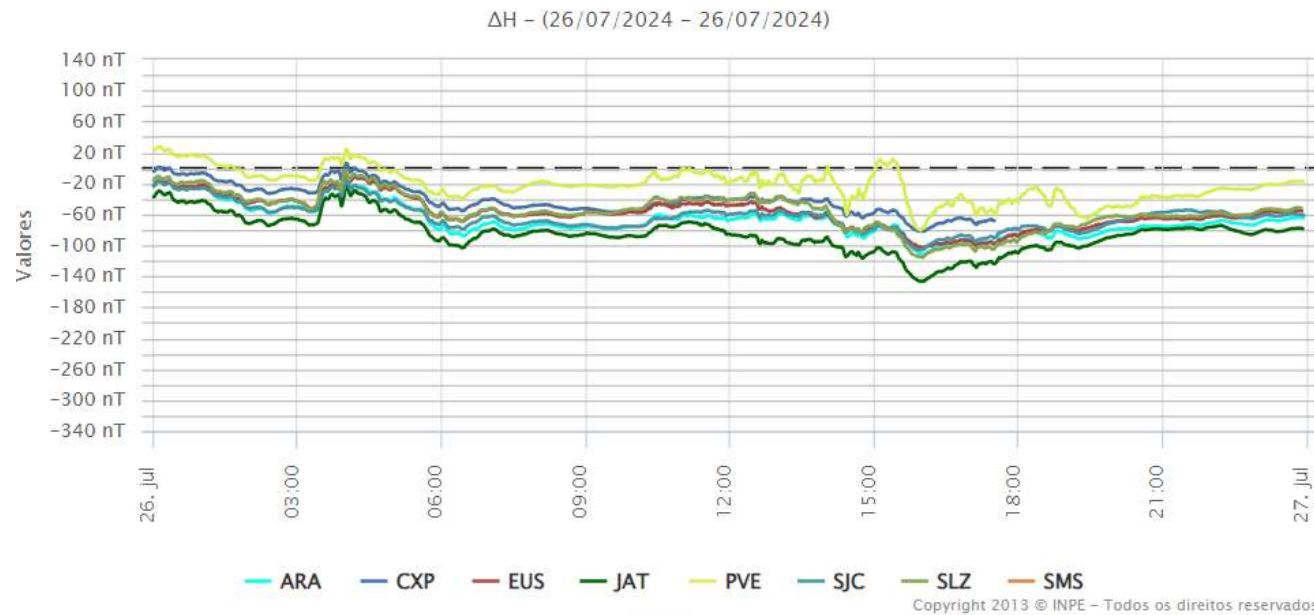
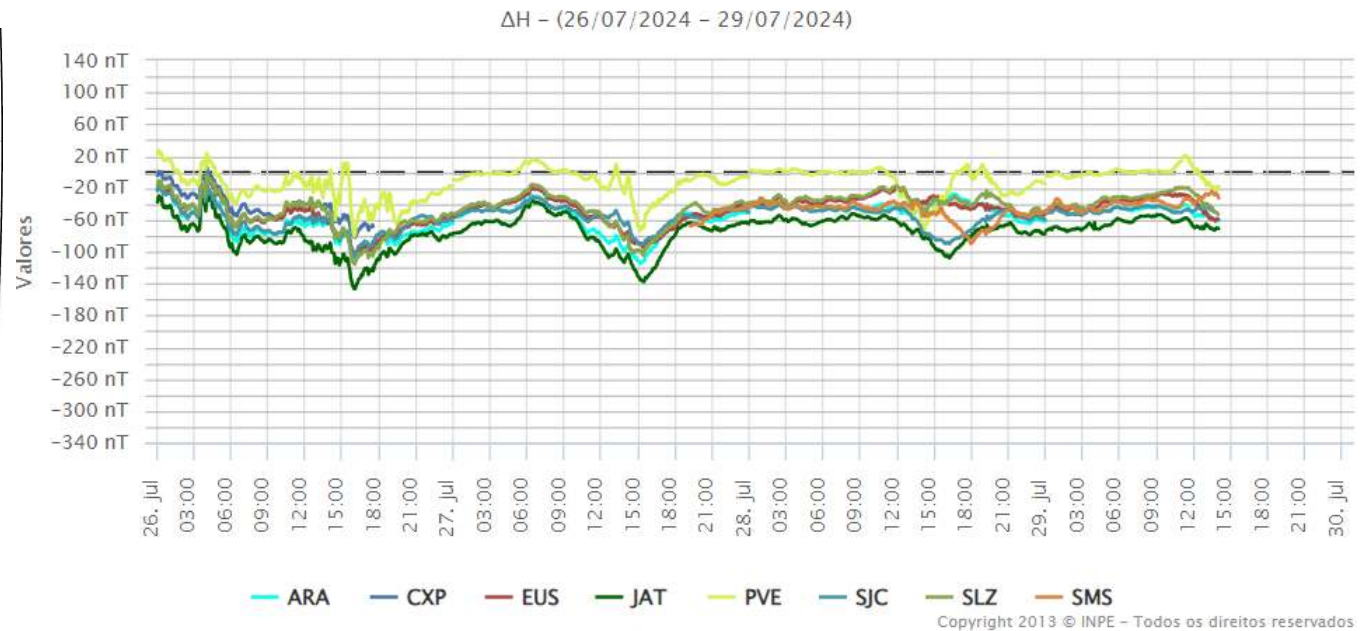
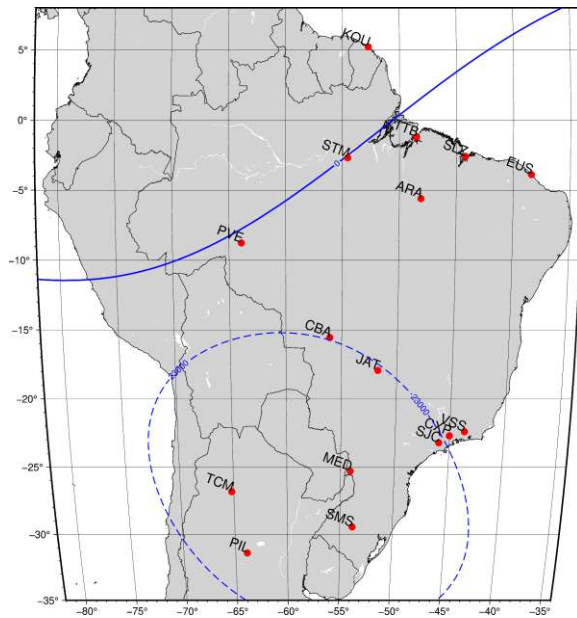
- Atividade magnética Índice global Kp



- Índice Dst



- Medidas de campo magnético magnetômetros-EMBRACE



Ionosphere – Digisonde (Laysa Resende)

Summary

We observed spread F in Boa Vista, a region near of the geographical equator, during this week (Figure 1). Over Cachoeira Paulista, the F region trace was typical. The Es layers were weak, reaching the scale 2.

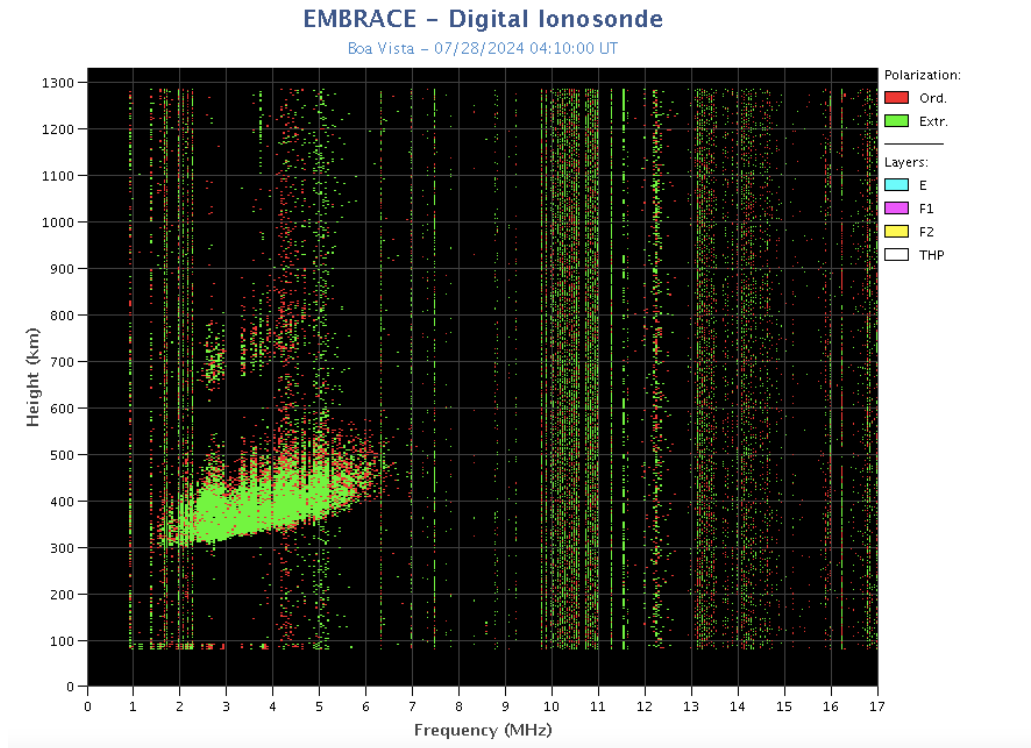


Figure 1 – Ionogram over Boa Vista, showing the spread F.

Ionosphere - ROTI Summary for Week 2324 (July 21 to 27, 2024)

Carolina de Sousa do Carmo

In the week 2324 (July 21 to 27, 2024), ionospheric irregularities (plasma bubbles) were not observed. The Figure below shows the ROTI time series for three stations in the Brazilian sector (Boa Vista (BOAV), Bacabal (MABB), and Cuiabá (CUIB)).

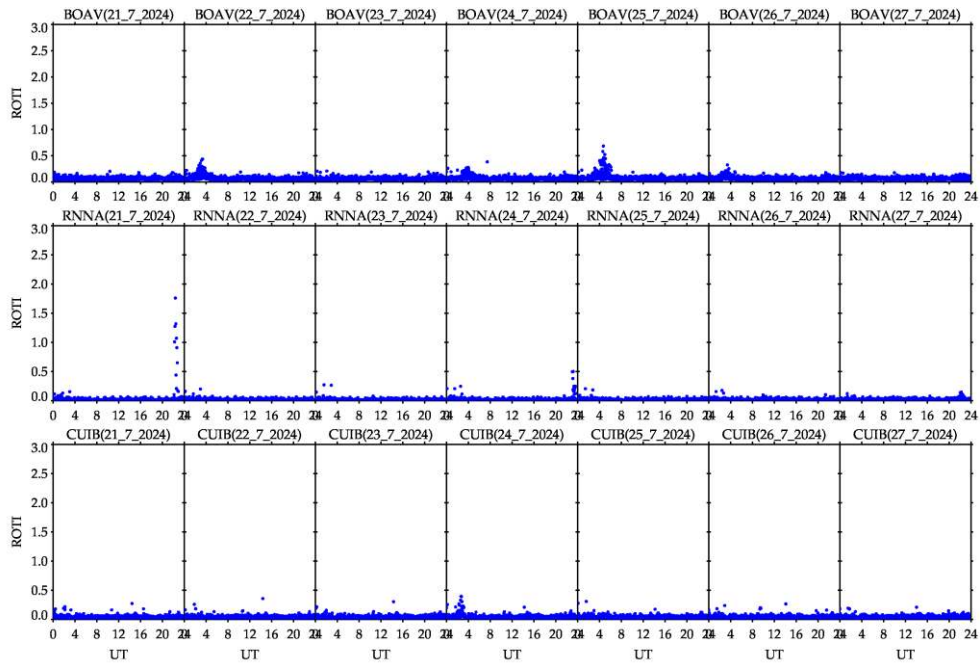


Figure – ROTI time series for three stations in the Brazilian sector (Boa Vista (BOAV), Bacabal (MABB), and Cuiabá (CUIB)), from July 21 to 27, 2024.