This paper investigates the characteristics of co-seismic ionospheric disturbances (CIDs) following the deep-focus earthquake near Tarauacá, Brazil, on January 20, 2024. Using data from seismometers and GNSS observations, the study calculates ground uplift and dTEC disturbance. Clear ground uplift and typical "N-type" TEC disturbances are detected in the experiment, and techniques such as wavelet analysis are applied for time-domain, frequency-domain, and distance analysis. This research provides valuable insights into the ionospheric disturbances induced by deep-focus earthquakes. The article still needs to be improved in some details:

Introduction:

The background description of ionospheric co-seismic disturbances is well-established, but some of the references are outdated. It is recommended to refine and condense the content, focusing more on recent advancements in this field, such as the characteristics of ionospheric disturbances induced by deep-focus earthquakes.

Methodology:

The section focuses on the derivation of STEC and VTEC but does not describe the method for obtaining dTEC. It is suggested to add the formula and explanation for calculating dTEC to better align with the study's focus.

Figures:

The figures in the paper are not very intuitive in terms of spatial representation, with the only one TTD figure (figure 3). Changing the vertical axis unit to "distance to the epicenter" could make figure 3 more intuitive. Additionally, it is recommended to include figures that reflect the spatiotemporal characteristics of the TEC disturbances.

The bar chart in figure 7 contains large color blocks. It is suggested to adjust the styling to make it more aesthetically pleasing.

Format:

Abbreviations should only be used in full the first time they appear, with subsequent uses in abbreviation form.

The word “Figure” should be bolded.

Language:

In Chapter 2, "slight Total Electron Content" should be modified to "slant Total Electron Content."

In Chapter 3, "Two PRNs" should be changed to "Two satellites" for clarity; the time "21:55 UT" does not match the time shown in Figure 2. Please ensure consistency in the time mentioned. "The influence of forcing above" is unclear. In context, it may be more appropriate to modify it to "the influence of external forcing factors."