

Interactive comment on “Ionospheric Total Electron Content responses to HILDCAAs intervals” by Regia Pereira Silva et al.

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General comments: I have read the manuscript that reports the responses of TEC to HILDCAA intervals over the two Brazilian GNSS stations. The manuscript is fairly good in presentation, particularly in reporting an equinoctial anomaly of the TEC during HILDCAAs. As known, this topic has not been extensively studied and is in progress in the field. Since some of the issues in the present forms are not adequately explained for the underlying Physics, I decided a minor revision for this manuscript.

Specific comment: 1. The abstract should be written in a concise form for the lines 32 - 39. 2. I think that one of the HILDCAAs' criteria is there are HSS and high frequency fluctuations of IMF Bz about zero value. 3. In lines 65 - 67, the authors may refer to

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no 2. for HILDCAAs' properties as well. 4. In lines 74 - 75, the authors should mention the references. 5. In section Data and Methodology, the authors should remove the links of data since they are already in the acknowledgement. 6. In line 218 please give more details about the related mechanism for the equinoctial anomaly. 7. In section 3.3 why the solar wind speed is thought to be a main factor that affects the TEC? 8. I would like to suggest some related work that may fulfill the discussion: For recent study of TEC and HILDCAA: -de Siqueira Negreti, P. M., de Paula, E. R., and Candido, C. M. N.: Total electron content responses to HILDCAAs and geomagnetic storms over South America, *Ann. Geophys.*, 35, 1309–1326, <https://doi.org/10.5194/angeo-35-1309-2017>, 2017.

for PPEF and DDEF during HILDCAA: -Yeeram, T. (2019). The solar wind - magnetospheric coupling and daytime disturbance electric fields in equatorial ionosphere during consecutive recurrent geomagnetic storms, *Journal of Atmospheric and Solar-Terrestrial Physics*, 187, 40-52.

-Yeeram, T., and Paratrasri, A. (2018). Recurrent geomagnetic storms and equinoctial ionospheric F-region in the low magnetic latitude: a case study, *IOP Conf. Series: Journal of Physics: Conf. Series* 1144: 012024(1-4).

9. Line 251, the geoeffectiveness of HILDCAA can be different and separated from CIR. Please see Hajra et al. 2015. Relativistic electron acceleration during HILDCAA events: are precursor CIR magnetic storms important? 10. The conclusions should be written in a short and concise form. 11. I do not understand the x-axis of Figs 2 - 5. Why the scale is for one day and for what? I see HILDCAA intervals are longer than that for each event H? Please describe in the text.

The technical comment 1. Some of the English must be corrected. For example, line 251, gerund "Summarizing" should be -> In summary/In conclusion. 2. The sentences must be simple and concise.

Interactive comment on *Ann. Geophys. Discuss.*, <https://doi.org/10.5194/angeo-2019-105>, C2

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