

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

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Manuscript “Ionospheric Total Electron Content responses to HILDCAAs intervals” by Regia Pereira Silva et al. submitted to Annales Geophysicae.

We would like to thank the Referee for all the suggestions and comments given in order to improve this paper. We really hope that all doubts have been clarified.

Responses to specific comments: 1. We would like to thank the Reviewer for this suggestion. We modified the abstract in order to let it more concise. 2. Actually, the criteria of the fluctuation of IMF Bz around zero was added in a later study carried out by Koga et al. 2011 (Doi: 10.1016/j.jastp.2010.09.002). According to Tsusutani et al., 2004 (Doi: 10.1016/j.jastp.2003.08.015) the same physical process may occur

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weather one criteria is not strictly followed. 3. We would like to thank the Referee for this suggestion. However, as the information written in the lines 65-67 is well-known, we have preferred to let it in this way. 4. Thank you for the suggestion. We added the reference. 5. Thanks for your suggestion. We removed the link of data from the Data and Methodology section and left it in the Acknowledgement section. 6. Information about the equinoctial anomaly is already written in the manuscript in lines 223 - 225. For more details, please see Balan et al., 1998 (doi:10.1029/97JA03137), Mansilla et al., 2005 (doi:10.1016/j.jastp.2005.02.024) and Chen et al., 2012 (doi:10.5194/angeo-30-613-2012) 7. We would like to thank the referee for this question. We realize that several papers address the relation between HILDCAAs and HSS/CIRs. However, how this relation is done is still an open question. Contrary to our expectations, the TEC answers during HILDCAAs are no direct relation to fast speeds. 8. We would like to thank the Referee for the suggestions. We read them and added the citation in lines 75, 95 and 237. 9. Yes, the geoeffectiveness of HILDCAAs can be separated from CIRs, since to a lesser extent, there are HILDCAA events related to CME. 10. We would like to thank the suggestion. The main results were written in topics in the Conclusions section. 11. The scale is not for one single day. The x-axis in Figures 2, 3 and 4 represent the mean dTEC hourly values. For Figures 2 and 3, the mean values were represented in this way in order to allow the comparison between one interval and other (please, see the lines 147 - 148). For Figure 4 the x-axis represents the central tendency for all dTEC values, minute-to-minute, as can be seen in lines 215 - 218. Lastly, in Figure 5, the x-axis represents the time duration of all intervals, represented each 12 hours.

Responses to technical comments: 1. We would like to thank the Referee for this correction. The word was changed in the manuscript. 2. We are very thankful to the Referee to help us improve the manuscript.

Please also note the supplement to this comment:

<https://www.ann-geophys-discuss.net/angeo-2019-105/angeo-2019-105-AC1->

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supplement.pdf

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