

Interactive comment on “On developing a new ionospheric plasma index for the Brazilian equatorial F region irregularities” by Laysa Cristina Araujo Resende et al.

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Manuscript ‘On developing a new ionospheric plasma index for the Brazilian equatorial F region irregularities’ by Resende et al. submitted to the Annales Geophysicae.

We would like to thank the editor for kindly evaluating this manuscript. We have answered the questions below.

Questions:

1. Why do the authors use only high and descending phases of the solar cycle to validate the methodology?

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Our response: The low latitude ionograms is aware of the necessity to manually checking of the ionograms for reliable results. Therefore, the criterion was to choose two whole years in different phases of the solar cycle that had a complete and revised amount of data to avoid any error in the results. So, this fact occurred in the years of 2001 (high solar activity) and 2015 (descending phase of the cycle). We added this information in page 4, line 4-6.

2. Is there a special reason for choose November, December and January as summer months? I guess December, January and February would be more representative of the summer season, are not them? The same comment can be applied to the winter months. Why do not the authors use February in their analysis?

Our response: We chose the months when the irregularities were observed almost every night in the ionograms. In other words, since plasma bubbles occur between September and March, we eliminate the two months before and after this analysis. The same criterion was used in the winter season. For better understanding, we add this information in the text (line 10-13, page 4).

Finally, we would like to take this opportunity to thank the editor for kindly evaluating our paper helping to greatly improve its quality.

Please also note the supplement to this comment:

<https://www.ann-geophys-discuss.net/angeo-2019-42/angeo-2019-42-AC1-supplement.pdf>

Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2019-42>, 2019.

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