

## Responses to the Comment and/or Suggestions from Editor

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

### Comment:

- Based on the comments from reviewer #2, please, try to fix the minor points, e.g., the meaning of AV1 and AV2, etc..

*Our response:*

*We have carried out a revision of the manuscript taking into account all the referee's comments. And, we added the AV1 and AV2 information in lines 10-13.*

- I agree with the reviewer #2 that the solar cycle must be included elsewhere in your modelling. If the PRE depends on the solar cycle, the occurrence of EPB must depend on solar activity as well, does not it?

- *Our response:*

*As we explained to the reviewer, we observe a relation to the instant in which  $V_{zp}$  increases (using  $V_{zp}$  equation) with the time that the irregularity is identified in  $AV_3$ ,  $AV_4$ , and  $AV_5$  indexes in all solar cycle phase studied. We only observe some differences in relation to the phase of the solar cycle, in which we added in our discussion (page 15, lines 5-10).*

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