

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

### **Anonymous Referee #1**

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This paper reports relationship between vertical drift velocity ( $V_z$ ) of the F layer and spread-F occurrence. Although the authors describe that a new index is introduced, the index is defined simply as magnitude of  $V_z$ . It is well-known that the spread-F occurrence strongly depends on  $V_z$ . This reviewer does not consider that introduction of the new index is valuable. However, the results in this study show that the spread-F occurrence is delayed at least 15 min from the time of  $V_z$  when  $V_z$  is less than 60 m/s, but that there is no time delay when  $V_z$  exceeds 60 m/s. This reviewer considers that these results are most important finding in this paper. Consequently, this reviewer recommends the authors to emphasize this point more in the revised manuscript so that this paper is worth publishing in this journal.

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Minor comments: – Describe which months are classified into summer, equinox, and winter. – Table 1: Each level of AV index is defined as vertical velocity larger than a threshold and smaller than another threshold. When the velocity is equal to the threshold, how the level is defined?

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