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Comment on angeo-2021-34

Anonymous Referee #2

Referee comment on "Latitude Oscillations of Zonal Mean Total Electron Content and Super-Fountain Effects Provided from Global GNSS Stations" by Mohammad Joghataei et al., Ann. Geophys. Discuss., https://doi.org/10.5194/angeo-2021-34-RC2, 2021

'Latitude Oscillations of Zonal Mean Total Electron Content and Super-Fountain Effects Provided from Global GNSS Stations'

Submitted to

Annales Geophysicae

By

Mohammad Joghataei et al.

This work shows interesting results, but the article needs to improve a lot. There are a lot of English mistakes. Therefore, I recommend major revision with improvement in discussions, the logic of this article, and English before publication.

Comments:

- Abstract: The abstract is not well written. The authors need to clarify better the purpose of this work.
- Lines 49-51: This phrase is a little confusing about the pre-reversal enhancement. Please, rewrote.
- The technique used by the authors is well-known, and the physics about the EIA climatology is very discussed in the scientific community. What is the novel of this work? For me, it is not clear. The authors mention that the latitudinal interconnection of zonal mean TEC is the new subject, but they need to discuss more.
- The authors need to discuss Table 1.
- Lines250-265: I do not understand the relationship between planetary waves, the results of the authors, and the Es layer occurrences. Also, the wind shear mechanisms occur in the E region heights, and they do not relate to the TEC values and the planetary waves. Also, Abdu et al. (2003) studied the electric field of the pre-reversal enhancement and the Es layer development. The wind occurred all the time, forming the Es layer at low and mid-latitudes. I think that there was confusion in the physical mechanisms. Please, clarify this part.
- The authors show the results about the Fountain effect, but they do not discuss this behavior deeply. I think that the results are great, but they need to discuss better.
- There are a lot of English language mistakes. Please, revise this.