

Interactive comment on “Quasi 10-day wave modulation of equatorial ionization anomaly during the Southern Hemisphere stratospheric warming of 2002” by Xiaohua Mo

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We very appreciate the referee’s comments for our work and manuscript. Here are our reply comments. All major revisions are marked in yellow highlights.

In this work, the author has used the TEC data in the Southern Hemisphere (SH) to demonstrate the effects of quasi 10-day wave on the Northern and Southern TEC crests during the 2002 SH SSW event. The manuscript has been written well and is generally easy to understand. The results in this manuscript do provide a clear evidence of the quasi 10-day modulation of the TEC during the 2002 SSW event. I do a have a few concerns and comments, which are mentioned below. However, in general,

the manuscript provides some interesting new results and should be accepted after a revision.

Specific comments: 1. Please plot a figure showing the location of the stations used in this work. Answer: The locations of the GPS stations shown in Figures 1 are added in the revised version.

2. Line 97 - "To exclude these long period fluctuations in EIA region associated with solar/magnetosphere forcing, the periods longer than 15 days in the MLAT location and TEC of EIA crest are removed". How is this process achieved? The author should clarify more regarding the applied method. Answer: To remove the periods longer than 15 days in these parameters, these parameters are subtracted from their respective 15-day moving average.

3. Line 152 - "Moreover, strong planetary wave scale quasi 10-day variation was observed in polar stratospheric temperature during this period". Please cite the work in which this observation was mentioned. Answer: Relevant references have been cited in the revised version

Technical corrections: Figure 1 caption - Correct to solar flux Line 92 - it consists of an eastward-propagating Line 105 - too weak to be identified in F10.7 Line 107 - evolution Line 108 - TEC of EIA crest and Kp, Line 124, 125 - band-pass Line 146 - have Line 155 - series of studies have showed Answer: These grammatical and wording mistakes have been corrected in revised one.

Please also note the supplement to this comment:

<https://www.ann-geophys-discuss.net/angeo-2019-43/angeo-2019-43-AC1-supplement.pdf>

Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2019-43>, 2019.

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Discussion paper

