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Manuscript Title: Variation characteristics of sporadic-E layer in East Asia based on long-term data

Replies to Editor

The authors have misunderstood the request to comment on the standard errors of the linear regression slopes in Table 5 (the red lines in Figure 9). The errors should be listed in Table 5 for each regression plot. That is, the value of the slope should be listed as x +/- y, where y is the standard error.

Inspection of the plots in Figure 5 indicates that most of the slopes are not statistically significant i.e. the standard error of each slope is larger than its value. Only Guangzhou and Chongqing have possibly significant negative slopes. The authors should then discuss whether there is has been any statisticallly significant change in foE. This is important information - either way!

Reply: Thank you very much for taking the time to review this manuscript and provide valuable feedback. We greatly appreciate the constructive comments and suggestions, which have helped us improve the quality and clarity of our work.

We have added the standard errors of the long-term trend slopes for each station in Table 5, as requested by the reviewer.

In the calculation, the standard error of individual foEs measurements was set to 0.002 MHz. According to statistical principles, multiple independent measurements effectively suppress random errors, resulting in a standard error of the long-term trend slope that is inversely proportional to the square root of the sample size. The computational results indicate that the standard errors of the slopes for the 21 stations range from 0.000027 to 0.000088, while the corresponding long-term foEs trend slopes generally fall within the range of 0.0001 – 0.0025. Since the slope values are significantly larger than their standard errors, the derived long-term variation trends are deemed statistically significant.

Thank you for your great effort and valuable time spent in reviewing this paper. We sincerely wish that with the careful revision of the paper, the revised manuscript is acceptable for publication.