

Interactive comment on “Solar eclipse induced perturbations at mid-latitude during the 21 August 2017 event” by Bolarinwa J. Adekoya et al.

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SOLAR ECLIPSE-INDUCED PERTURBATIONS AT MID-LATITUDE DURING THE 21 AUGUST 2017 EVENT by B Adekoya

This manuscript attempts to provide a discussion related to the observed solar eclipse-induced perturbations at the mid-latitude during the 21 August 2017. Although long description of this event and conclusions reached are supported by data analysis, the obvious question is what is really new in author’s results and findings which have not already been reviled in the large number of the reference papers.

Without any willingness to be negative in this report, it is necessary to draw attention on the following issues:

PP 39-42: In the context of the sentence “Different physical mechanisms (e.g. neutral wind, thermospheric composition, diffusion process etc.) that explain the distribution of plasma at the different ionospheric layers are well established”, the subsequent sentence “However, these mechanisms do compete with themselves in explaining other layers, especially for the topmost F2 layers”, is confusing. Particularly, who are “other layers” and where is “topmost” F2 layer?

PP46: “However”, should be deleted, and star the sentence simple - At equatorial and low-latitudes...

PP73: foF2 is an ionospheric characteristic not an ionospheric parameter

PP272-273: The sentence “This paper presents the induced perturbation of solar eclipse of 21 August 2017 on the ionospheric F parameters and their behaviour in predicting one another at mid-latitude” is not clear to me because I could not understand who is predicting what and where are the results of that prediction. See also the first sentence in Abstract and PP282

PP276-277: There is not such name as “the F layer ionosphere”. As authors know very well, there are F1 and F2 layers or F region of the Earth’s ionosphere. See also PP281

Most importantly for the essence of the paper the last paragraph 252-267 is completely irrelevant. Furthermore, the IRI model is not generated to capture the conditions of the ionosphere during solar eclipse. See also PP285-287 as well as the last sentence in Abstract.

Although I am not a native English speaker, I feel free to suggest another careful proof-read to avoid some minor typo and language errors. For example:

PP80: NmF2 and hmF2- non italic; PP:84 NmF2, hmF2 – italic. See also a few more cases in the text;

PP:214: $(NmF2e - NmF2c)/NmF2c \times 100$ should be $100 \times (NmF2e - NmF2c)/NmF2c$

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Finally in my opinion this manuscript may become acceptable after major revisions and must be reviewed again.

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