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Title: Atmospheric drag effects on modelled LEO satellites during the July 2000 Bastille Day event in contrast to an interval of geomagnetically quiet conditions

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Dear Editor,

We are deeply grateful to you (and team) for handling our manuscript, and most importantly for coordinating the efforts that helped us improve the quality of this work, which has now culminated to the acceptance of our manuscript for publication. We really cannot thank the reviews enough but their time and effort put into this review process are both applauded and appreciated. Their helpful comments and suggestions in no small measure led to the ultimate achievement of the goal of this review process - improving the work.

We are pleased to inform you that the indicated technical corrections has been accordingly. The list of required corrections and the respective responses are detailed below:

EDITOR'S COMMENTS

Comments to the Author:

Dear authors,

It is my pleasure to inform you that - based on the recommendations of the reviewers - we are now ready to publish your paper, provided that you make just a few technical corrections as indicated below:

- The symbol for solar wind speed in the text needs to be checked. It seems that something went wrong with the subscript and the letter W does not appear in the correct position.

Response: The symbol for solar wind (V_{sw}) has been checked and corrected accordingly. Please see lines 150 and 153

- In equation (1) the acceleration term is missing a bar above r. Personally, I prefer to use bold letters to indicate vectors e.g. as is done in Nwankwo PhD thesis (2016) equation 3-6. However, the authors are free to choose a style as long as they are consistent.

Response: Equation (1) has been corrected accordingly. Please see line 192

- I suggest to rephrase the sentence “Our model catered for the effect of Earth’s gravity (since the derivation of the satellites’ velocity is based on the balance between the gravitational and centripetal force).” in line 199. I think I understand what the authors are trying to say here but the wording might cause some confusion (there is also a typo in the sentence) because the centripetal force is a gravitational force. To avoid any confusion, I suggest to write the following (or something similar) instead: “Our model takes into account the effect of Earth’s gravity since the derivation of the satellites’ velocity is based on the concept of the centripetal force.”

Response: As suggested the sentence “Our model catered for the effect of Earth’s gravity (since the

derivation of the satellites' velocity is based on the balance between the gravitational and centripetal force)" has been rephrased to read "Our model takes into account the effect of Earth's gravity since the derivation of the satellites' velocity is based on the concept of the centripetal force." Please see lines 199-200.

- In Figure 4, I would personally remove the image of Earth to emphasise the fact that the plot shows the results of a simulation (nevertheless, the authors should feel no obligation to change the figure).

Response: The image of the Earth has been removed from figure 4 accordingly.

- Earth appears mostly capitalised but not in lines 69, 182, 212, 326.

Response: We have now capitalised the work 'Earth' (and 'Sun') where necessary (as indicated). Please see lines 37, 61, 69, 181, 212 and 329.

We believe that in its current state, our corrected manuscript is now suitable for publication, and we look forward to having it published at the earliest time possible.

Thank you very much.

Victor U. J. Nwankwo