

## ***Interactive comment on “Stratification observed by the in situ measurements from the Swarm satellites” by Xiuying Wang et al.***

### **Anonymous Referee #2**

Received and published: 12 March 2020

The paper presents very interesting results regarding F2 layer stratification, and also new to my knowledge. I think it should be published in this journal after some corrections and clarifications.

My main doubt is how the stratification effect is detected. I do not fully understand your explanation in page 3 (before Section 3) where you say “stratification events are identified only when the data differences between Swarm B and Swarm A are positive and the positive data difference can maintain a continual latitude of at least  $5^\circ$ .” I think a deeper explanation is needed. In order also to fully understand Figures 4, 5 and 6, and how stratification is implied by them. May be is because I am not fully acquainted with the stratification effect, but I think that it is worth to give a more complete explanation.

Other comments:

I think that the F3-layer concept should be mentioned in the Introduction also. Not only in the Conclusion.

Page 1, line 23: Where it says “the magnetic meridional neutral wind”, I do not think that it is a “magnetic meridional” it is just meridional. So it should be “the meridional neutral wind”. Please check.

Figure 2. The Rz and F10.7 daily curves are ok, but the values of Rz I think not. Please check that the peaks reach 160 and not 200, please. I mean, I think there is a problem with the values in the y-axis of the Rz plot. Take also into account, that even though this solar cycle is a weak one, 2014 is around its maximum.

Minor corrections: Page 1, line 24: “(Balan et tal.,” should be corrected to “(Balan et al.,”

Page 1, line 39: “are still existed” should be “still exist”

Page 2, line 2: “and for the later” should be “and for the latter”

Page 3, line 5: “there are fewer geomagnetic events” should be “there are few geomagnetic events”

Page 9, line 11: “can occur in all reasons or only in summer” should be “can occur in all seasons or only in summer”

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Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2019-161>, 2020.

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Discussion paper

