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Discussions

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Interactive comment on "Predicting the maximum *aa/Ap* index through its relationship with the preceding minimum" *by* Zhanle Du

Zhanle Du

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1) Therefore, I suggest the following It should be stated clearly that these max values are for smoothed aa index and it should be given a special note. The paper title should also indicate this.

R: Yes. Thank you.

2) The author could try to compare the expect strength of the 25 cycle with the previous cycles. So, we could understand is it will be more active or less active.

R: Yes. We do.

3) The author could try to predict a more reliable maximum of the aa index for the 25th

cycle. To do so I could suggest to construct two data sets of the observed aa index minimum and maximum values for each 3 days or more. These two sets could be smoothed for 13 months. The correlation between these two data sets (for 3 days min and max values) are about 0.79 From these two data sets the author could peak the maximum and minimum aa index for each solar cycle and replace these values with those in Table 1.

R: Yes. We did as suggested. One paragraph is inserted in Section 4 (Discussions) to discuss the correlation between the smoothed monthly mean aa and RI. In the revised manuscript, we used only the 3-hourly aa index of ISGI since 1868. For each 3-day-interval, we find the highest aa index (aaH) and the lowest aa index (aaL) from 24 values of the 3-hourly aa indices. Then, both aaH and aaL are smoothed by 363 days (121 points) to mimic the 13-month smoothing. The results are similar to those using 13-month smoothed monthly mean values, apart from that the maximum is estimated to be around 85 for the highest value. The Ap index is used only for comparison.

4) Finally, the units of the indices (nT) should be written in text and on the Figures.

R: Yes. We do.

Please also note the supplement to this comment:
https://www.ann-geophys-discuss.net/angeo-2020-15/angeo-2020-15-AC1-supplement.pdf