

Interactive comment on “On the radiation belt location in the 23–24 solar cycles” by Alexei V. Dmitriev

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I very appreciate the reviewer for very useful and valuable comments and suggestions. They help to improve substantially the quality of revised manuscript.

The following revisions have been done in according to the comments (colored by blue):

1. The using of linear fitting was justified.
2. The errors of the fitting parameters have been calculated by using a linear regression. The results are listed in new tables (Tables 3 and 4).
3. The fitting expressions have been removed from Figures 4 and 5.
4. Description of Figures 4 and 5 was substantially improved with using discussion of

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the linear regression results presented in Tables 3 and 4.

5. The comparison with the IGRF model in the Siberian sector was revised in the following manner: “From Table 4, one can see that the slope a is calculated with errors of $\sim 30\%$ and $\sim 20\%$, respectively, for >30 keV and >100 keV electrons. It means that the decrease in latitude might be $\sim 2\text{deg}$ (instead of $\sim 3\text{deg}$) and $\sim 1.5\text{deg}$ (instead of $\sim 2\text{deg}$), respectively. These values are again larger than 1deg of the model prediction. Hence, there is a tendency that the change in the latitudinal location of ORB maximum is underestimated by the model. This fact indicates that during 17 years from 2001 to 2018, ORB is abnormally displaced toward the lower latitudes in the Siberian sector.”

6. The abstract and conclusions have been revised accordingly: “However in the Siberian sector, the model has a tendency to underestimate the equatorward shift of ORB.”

Please also note the supplement to this comment:

<https://www.ann-geophys-discuss.net/angeo-2018-118/angeo-2018-118-AC1-supplement.pdf>

Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2018-118>, 2018.

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