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Interactive comment on “Characterization of Odin-OSIRIS ozone profiles with the SAGE II dataset” by C. Adams et al.

Anonymous Referee #3

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The paper presents the validation of ozone vertical number density profiles from Odin-OSIRIS with SAGE II v7.0 as reference dataset, in view of future merging of the two datasets. The paper is well conceived, well balanced and clearly written. The following comments should be taken into account.

Comments:

1. P1036 L8-9. The overlap period of the two instruments is just 4 years, which is too short for drawing the conclusions about the quality of the dataset for trends estimates. You are saying it yourself in P1048 l5-7. You could probably just omit “are suitable for analysis of ozone trends” from the sentence.
2. P1040, l.1-2: “smoothing width had minor effect on the comparison results”. What

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for degrading SAGE further than OSIRIS vertical resolution? When intercomparing, the effect, if any, does not come from the smoothing width but from the smoothing with a well prescribed width: the better resolved profiles should be degraded down to the worse resolved instrument's resolution, in order to make profiles comparable. I would suggest replace "smoothing width had minor effect on the comparison results unless it was set to values that were much larger than the OSIRIS vertical resolution." by "smoothing had minor effect on the comparison results."

3. P1040, I22-23 "Care has been taken to minimize the impact of sampling biases for coincident measurement pairs, as discussed in Sect. 3." If plots presented were produced without applying dynamical coincidence criteria, please explain what is meant by "care has been taken". Also, explaining the dynamical criteria on ½page and not giving any plot illustrating their results is misleading: you should probably consider to provide one plot obtained with these criteria.

Technical corrections

P1038 I20: "Coincident measurement pairs were selected for the three sets of criteria given in

Table 1." Table 1 shows two (not three) sets of criteria. You could change "three" to "two" and mention dynamical coincidence criteria in the phrase introducing the table.

P1048 I8-9: "Biases between OSIRIS and additional datasets should must be identified and quantified." Should or must?

Interactive comment on *Atmos. Meas. Tech. Discuss.*, 6, 1033, 2013.

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