

## ***Interactive comment on “Merged SAGE II, Ozone\_cci and OMPS ozone profiles dataset and evaluation of ozone trends in the stratosphere” by Viktoria F. Sofieva et al.***

### **Anonymous Referee #1**

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This paper presents a careful analysis of available long-term satellite ozone measurements to create a merged ozone data set covering the years 1984-2016. The work is carefully done and the authors demonstrate a strong understanding of the nuances of each of the separate data sets. The merging methodology and various statistical uncertainties are carefully explained in the manuscript, and the results seem reasonable to me. I agree with the choice of merging deseasonalized anomalies from the separate data. The merged data are used to estimate linear ozone trends before and after 1997, with the key result showing statistically significant ozone increases in the middle and upper stratosphere after 1997. I like the inclusion of various sensitivity tests in the text and the Supplement. Overall, this is a valuable project and I expect that these data

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will be widely used in the research community for analyses and model comparisons. The paper is clearly written with appropriate references included, and I don't have any suggestions for changes. Well-done!

Very minor comments: p. 15, line 13: 'ineffective' doesn't sound right to me. How about 'The filtering does not affect the majority of cases, and only removes a few exceptional .....'. The caption to Fig. 12 could be improved to explain what is being shown, and what the y-axis represents.

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