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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Global sensitivity of aviation NO_x effects to the HNO_3-forming channel of the $HO_2 + NO$ reaction" *by* K. Gottschaldt et al.

Anonymous Referee #1

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This paper examines the effects of assuming the controversial measurements of HO2 + NO channel to form HNO3 are correct in terms of looking at aviation emission effects on ozone and methane. It also examines the additional measurements suggesting a dependence on water vapor. The ECCAM global model was used for these studies. Although there are still a lot of questions about this reaction channel, it is certainly worthwhile to do a study like this and it appears to have been well done. Although it is yet unpublished, we have done a similar study with the WACCM model and the results in this paper look to be very similar to ours. This study does add to the literature and should be published in ACP, but after the authors have responded to the concerns below.

My one major complaint about the paper is the figures. These postage stamp figures

just are not readable. The authors need to make the graphics larger, and break them into smaller pieces that you can actually read and comprehend.

Another issue, less of a concern, is that the authors try to be overly detailed in the discussion, discussing even the smallest insignificant changes rather than concentrating on what is important. The paper could use some editing to reduce the content to what is really needed and most relevant.

Interactive comment on Atmos. Chem. Phys. Discuss., 12, 24287, 2012.