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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Modelling of gaseous dimethylamine in the global atmosphere: impacts of oxidation and aerosol uptake" *by* F. Yu and G. Luo

Anonymous Referee #1

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This paper is a novel study about the fate of dimethylamine (DMA) in the global atmosphere and presents global simulations of the sources and sinks of DMA with a state-of-the-art CTM. I support the publication of this study in ACP, after some minor corrections/additions in the text. 1. Give the source analysis of NH3 emissions used in the model (anthropogenic, soils, oceans, biomass burning) and add the references of the database. 2. Page 17730; Line 1: You can also refer to previous studies which calculated emissions of amines based on NH3 with a global model, before the current work (see doi:10.1155/2010/939171,) 3. Statistical analysis (standard deviation, (root) mean squared error, etc. . .) has to be added in comparison of DMA with observations

for Fig. 4 for each site type. Please add it also in the discussion. 4. A table has to be added with the calculated budget of DMA (emissions, dry/wet deposition, chemical destruction per reaction etc.) as well as of the other calculated amines. References from other studies must also be included - NH3 budget analysis would be also useful for comparison. 5. Page 17734; Line 25: cuts the lifetime of DMA – Please rephrase appropriately.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 17727, 2014.