Geoscientific
Model Development
Discussions

Interactive comment on "Supersaturation calculation in large eddy simulation models for prediction of the droplet number concentration" *by* O. Thouron et al.

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I enjoyed reading the paper. A few comments:

1. Which aerosol activation scheme is used? There are differences, and those differences could explain some of the differences between the results of Scheme A, B and C.

2. Why do you treat in-cloud activation with scheme A? It was never designed for that, and is certainly not done in my applications to large-scale models. Why not just treat activation at cloud base? See Ovchinnikov and Ghan, JGR 2005.

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3. It is possible to apply a different diagnostic treatment of supersaturation for secondary nucleation within the interior of clouds. See Ghan et al., J. Advances Modeling Earth Systems (2011).

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