Interactive comment on “Aerosol-climate interactions in the Norwegian Earth System Model – NorESM” by A. Kirkevåg et al.

Dr. Zhang
kai.zhang@zmaw.de

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Dear Alf,

The manuscript is very interesting to me. I would be appreciated if you could provide more detailed information about the water uptake (hygroscopic swelling) scheme used in NorESM. It will be a useful reference for related studies.

In your manuscript, it is motioned: "Hygroscopic swelling is calculated with the Koehler equation". My questions are:

1. Do you use a similar method as in Liu et al. (2012, link below)?
2. If so, what are the hygroscopicity values (kappa) you assumed for various species?
3. What’s the maximum RH value (RH ceiling) assumed in the aerosol water uptake calculation?

4. When calculating the aerosol water uptake, do you use the grid-box mean RH or the clear-sky portion RH value?

Thank you!

Kai

Kai Zhang (kai.zhang@zmaw.de)

Pacific Northwest National Laboratory


http://www.geosci-model-dev.net/5/709/2012/gmd-5-709-2012-supplement.pdf

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