

Interactive comment on “MADE-IN: a new aerosol microphysics submodel for global simulation of potential atmospheric ice nuclei” by V. Aquila et al.

Anonymous Referee #1

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This paper provides useful insight into the ice nuclei modeling to the model community. The paper is well organized and written and is acceptable for publication after minor revisions are made.

1. Page 2228, line 20: please give some brief explanation or references at "Mineral dust is assumed to be completely hydrophobic".
2. Page 2228, lines 25-27: please also give some brief explanation or references at "Furthermore, MADE-IN simulates also the aging of mineral dust from hydrophobic to hydrophilic by gaining a liquid coating".
4. Page 2243, lines 19-27: please describe the dry deposition process more clear. It should include two parts: sedimentation near the surface and turbulent mix-out (refer-

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ence please see Su, L., and O. B. Toon (2009), Numerical Simulations of Asian Dust Storms Using a Coupled Climate-Aerosol Microphysical Model, *J. Geophys. Res.*, 114, D14202, doi:10.1029/2008JD010956.)

Interactive comment on Geosci. Model Dev. Discuss., 3, 2221, 2010.