Interactive comment on “Sensitivity of aerosol concentrations and cloud properties to nucleation and secondary organic distribution in ECHAM5-HAM global circulation model” by R. Makkonen et al.

R. Makkonen et al.

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We thank Dr. Kazil for his comment on assumptions of activation-type nucleation coefficient.

Indeed the issue of a constant activation coefficient requires some discussions, and this is already somehow covered in Section 4. There is no reason to assume that boundary layer nucleation would happen through exactly same processes over remote oceans and boreal forest, however, we do not have enough information to adjust the activation coefficient for different areas. If we would know more details of the coefficient, we could use a product of different terms instead of a global constant. However, this is out of the
scope of the paper.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 10955, 2008.