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Comment

## ***Interactive comment on “Humidity-dependent phase state of SOA particles from biogenic and anthropogenic precursors” by E. Saukko et al.***

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This is a very interesting article in which evidence is presented that SOA's phase state is dependent on humidity. A number of motivations are given in the introduction for why the phase state of SOA is important in the atmosphere. All these are valid, but I also encourage you to consider the implications for ice cloud formation. In a recent article it was shown that aqueous aerosol in a glassy state can catalyse ice formation under cirrus conditions and modelling suggests that this substantially modifies cirrus cloud radiative properties and also their ability to serve as a cold trap for air entering the stratosphere. The article is: Murray, B.J., T.W. Wilson, S. Dobbie, Z. Cui, S.M.R.K. Al-Jumur, O. Möhler, M. Schnaiter, R. Wagner, S. Benz, M. Niemand, H. Saathoff, V. Ebert, S. Wagner and B. Kärcher, Heterogeneous nucleation of ice particles on glassy

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aerosols under cirrus conditions, Nature Geoscience, 3, 233 - 237, 2010.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 4447, 2012.

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