

Interactive comment on “Ice nucleation and cloud microphysical properties in tropical tropopause layer cirrus” by E. J. Jensen et al.

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Response to Interactive Comment (J. Kay, referee)

We appreciate the supportive review. It is true that we do not provide trajectory simulations showing that the heterogeneous nucleation on ammonium sulfate hypothesis can explain the observations. We feel that the problem is too unconstrained. We lack information about the dependence of ammonium sulfate IN activity as a function of temperature, particle size, or the detailed aerosol composition (including organics). Therefore, we simply present this as a plausible hypothesis.

Minor comments:

1. "there" replaced with "their".

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2. Given the concentrations and sizes of ice crystals in the TTL cirrus we are discussing, aggregation is negligible. Further, the CPI images show no evidence of aggregation.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 20631, 2009.