

## ***Interactive comment on “Technical note: The heterogeneous Zeldovich factor” by H. Vehkamäki et al.***

### **Anonymous Referee #2**

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This paper addresses the approximation made in the classical theory of nucleation when evaluating the Zeldovich factor. This factor distinguishes the nucleation rate based on population kinetics from one based on transition state ideas. It is a factor less than one and represents the fact that a cluster having reached the critical size does not necessarily nucleate, but could fluctuate in size back into the sub-critical region.

The particular approximation normally made in developing a theory of heterogeneous nucleation is that the substrate on which the droplet forms is assumed to be planar. However, it is conceivable that small existing particles with significant surface curvature could act as heterogeneous nuclei. This paper makes a more careful calculation of the Zeldovich factor for a curved substrate, using a capillarity model.

The results are somewhat slight, in that the adjustments to be made to standard theory are rather small, and well within any uncertainties that might result from other approximations. Nevertheless the work appears to be correct and publishable.

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Interactive comment on Atmos. Chem. Phys. Discuss., 6, 9069, 2006.

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