

***Interactive comment on “Technical note:  
Fundamental aspects of ice nucleation via pore  
condensation and freezing including Laplace  
pressure and growth into macroscopic ice” by  
Claudia Marcolli***

**Anonymous Referee #2**

Received and published: 1 December 2019

I support publication. This technical note collects and organizes a variety of topics necessary to evaluate the pore condensation freezing mechanism in a wide array of circumstances.

I have a few suggestions that might improve the paper around the edges, but the paper could be published “as-is” and still be a solid contribution to the literature.

There are a lot of parameterizations in this paper, and many of them are excruciatingly sensitive. For example, Equation 18 has a term in it with six significant figures. It's

C1

very easy to leave a digit out or transpose a couple when entering expressions like this into code. It would be quite helpful if a table of one or two pair of representative values from equations like this were included in the text. As an example of something like this, see appendix C in Murphy and Koop, QJRMS, 2005, “Review of the vapor pressures...” Equations A1, B15, and B16 are other examples that I think would benefit from something like this. (That's not an exhaustive list.)

**Minor comments**

Line 24: “Cirrus may form through different mechanisms.” This sentence seems redundant, considering the fact that the previous sentence was a description of various mechanisms by which cirrus can form.

line 13: “...pore with thickness  $t = 0.38 - 0.6$  nm” That dash looks like a minus sign at first glance. Perhaps replace with “...pore with thickness of 0.38 to 0.6 nm”

---

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2019-973>, 2019.