

Interactive comment on “Scanning electron microscopy and molecular dynamics of surfaces of growing and ablating hexagonal ice crystals” by W. C. Pfalzgraff et al.

Anonymous Referee #2

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This is an interesting paper showing growing and ablating ice crystals and molecular dynamics simulations. It is mostly a descriptive paper, but the quality of the pictures and the finding of the ledges during growth and ablation make it relevant and publishable.

The experimental part is the more relevant, and the simulations are hardly comparable due to their small scale. Yet they provide an idea of what simulation can and cannot achieve from the atomistic models.

The authors should explain better the following points. - Figure 1 shows two crystals in different orientations, one is said to be more common than the other. Why is that? Could the authors elaborate on the reason for such preference? - The 14 degree angle

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between prismatic and basal planes correspond to what Miller indices? How accurate is the measurement of 14 degrees? Could it be that this is a transient angle that appears only during growth? - In the MD results, it is difficult to evaluate the stability of the crystal without seeing a time dependent plot of a relevant thermodynamic and/or structural property.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 20739, 2009.