

***Interactive comment on “Ice nucleation properties of volcanic ash from Eyjafjallajökull” by C. R. Hoyle et al.***

**Anonymous Referee #1**

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This manuscript describes measurements of the ice nucleation properties of the ash from the large Icelandic eruption in 2010. Bulk experiments and those with a ice nucleation chamber are sensitive to rare and common ice nuclei, respectively. In common with some previous studies, the volcanic ash is not as good at ice nucleation as typical mineral dust. Some model studies are done to assess the atmospheric implications of the volcanic ash.

The manuscript is extremely well written. The strengths and limitations of both techniques are clearly stated. There are good comparisons to the ice nucleation properties of other aerosols, such as Figure 5. There are some puzzles in the comparisons to measurements by other groups of the ice nucleation properties of the ash, but these puzzles are noted and I do not see that the differences have to be resolved.

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Overall, this is an excellent manuscript on a narrow but interesting problem, the ice nucleation properties of the ash from this eruption. I recommend publication.

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Interactive comment on Atmos. Chem. Phys. Discuss., 11, 17201, 2011.

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