

***Interactive comment on “On the relationship between Arctic ice clouds and polluted air masses over the north slope of Alaska in April 2008” by C. Jouan et al.***

**Anonymous Referee #2**

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High latitude clouds and the role ice nuclei in these clouds is a very important topic at the moment. This is an interesting paper that does have scientific merit. However, the paper is long and difficult to read. It is over long particularly given the results that are presented. It is very difficult to understand exactly what is presented and this partly due to the poor standard of the figures. My reading of the paper is that it is not possible to identify the source unambiguously as the air mass will pass from the anthropogenic sources in China over possible volcanic sources. While it is possible to separate these sometimes I do see this as a weakness with the study. I also think that the project would benefit from studying a much longer period when better statistics would be available.

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The English although acceptable is not of the highest standard and this makes the paper difficult to understand. There are a lot of acronyms used and this adds to the confusion of the paper. I particularly dislike the use of TIC (Types of Ice Clouds) as in most places it is used it doesn't read properly – even if this has been used in previous papers it should be replaced with a better acronym here.

In conclusion I think this paper has some merit but needs cutting down and simplifying before it would be ready for general publication. The figures also should be improved and reduced in number.

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Interactive comment on Atmos. Chem. Phys. Discuss., 13, 4331, 2013.

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