

Interactive comment on “The growth of sublimation crystals and surface hoar on the Antarctic plateau” by J.-C. Gallet et al.

Anonymous Referee #4

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Overall, I found this to be a good paper and do not have a substantial criticism.

This is well written clearly presented manuscript. The paper addresses two non-precipitation surface deposition processes on snow on the Antarctic plateau. Of particular interest are the “sublimation crystals”. The experimental procedures and the Crocus model are appropriate to the study. Overall, the presentation is a worthwhile addition to the scientific literature. In my opinion the paper is generally suitable for publication.

In the paper by Style and Worster that is used in the analysis it is suggested that that the frost flower formation (sublimation crystals) is a nucleation driven process. They suggest that these nucleates might be provided by diamond dust crystals in the air or protrusions of ice platelets in the case of sea ice. I feel this is worth pointing out in the

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present paper. I do not think that the conditions governing sublimation of a surface can also be the same conditions driving deposition onto that same surface. This should be addressed.

Please also note the supplement to this comment:

<http://www.the-cryosphere-discuss.net/7/C3215/2014/tcd-7-C3215-2014-supplement.pdf>

Interactive comment on The Cryosphere Discuss., 7, 5971, 2013.