Reply to the comment by Seifert

We thank Dr. Seifert for his comment and for pointing out the fact that there is an agreement between our measurements on freezing nucleation and those reported on the presence of ice in clouds as a function of temperature. It should be pointed out however, that our results refer to ice nucleation by freezing as a function of temperature, while the radar measurements mentioned by Dr. Seifert refer to the temperature dependence of fraction of clouds containing ice. Although the comparison is interesting one should remember that ice can form in a number of mechanisms, such as contact, immersion, deposition and condensation freezing. In addition, in some clouds ice can form by ice multiplication. Thus a direct comparison between our results and those pointed out by Dr. Seifert is very interesting but not necessarily unique. The fact that in the presence of dust ice appears in clouds in temperatures as warm as we observed in this paper and as was found from in situ measurements by Levin et al. (1996) is very gratifying.

In the revised manuscript we inserted a comment about this in the discussion. We also made reference to Zang et al. (2012) in the introduction and added in the discussion section a comparison of our results with those of Kanitz et al. (2011) and Seifert et al. (2010), pointing out the appearance of ice in midlevel supercooled stratiform clouds with tops as warm as -12°C and -10°C respectively, in agreement with our results of freezing nucleation and with those of Levin et al. (1996).

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