

Interactive comment on “Measurements of natural deposition ice nuclei in Córdoba, Argentina” by M. L. López and E. E. Ávila

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The authors present here a new setup to investigate ambient deposition ice nuclei properties. The study, conducted in the city of Cordoba (Argentina), reports deposition ice nuclei number concentrations in a temperature range between -15 and -30°C at different supersaturations with respect to ice ranging from 2% to 20%. Due to the scarcity of ambient IN measurements in the literature, these results are valuable. However I feel like some points of the paper could be improved:

Introduction: Some studies on deposition nucleation are missing and should be included in the introduction, e.g. Welti et al., 2008, Archuleta et al., 2005 among others. As the authors are reporting ambient IN measurements, a description in the introduction of all the potential natural and anthropogenic IN studied in laboratories should be

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given.

Experimental setup: Is there a possibility to calibrate the RH sensor by investigating the deliquescence point of size selected ammonium sulphate at sub-zero temperatures and compare it directly to some results reported in the literature (e.g. Braban et al., 2001)? What aerosol concentrations were encountered during the measurements? I am wondering if the water vapour provided to the chamber is high enough to avoid water vapour competition in case of high aerosol concentration cases and therefore reduce the size of the ice crystals of certain IN that may not sediment.

Results and discussion: The authors claimed that they have measured from April to July 2012. However they do not provide much information about the measuring time and how they have derived the different data points present in Figure 5. Do these data points represent a 1 week measurements? It would also be helpful to use a different shape or color for data points of different season as the measurements were carried out during autumn and winter.

References:

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Welti, A., Lüönd, F., Stetzer, O., and Lohmann, U.: Influence of particle size on the ice nucleating ability of mineral dusts, *Atmos. Chem. Phys.*, 9, 6705–6715, doi:10.5194/acp-9-6705-2009, 2009.

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