

## ***Interactive comment on “The SPectrometer for Ice Nuclei (SPIN): An instrument to investigate ice nucleation” by S. Garimella et al.***

### **Anonymous Referee #3**

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I do not have many additional comments to add to the two previous thorough reviews as the main points that need clarification are already pointed out. What I would like to see is some preliminary results of ambient measurements (e.g. at  $-30^{\circ}\text{C}$  at a defined supersaturation). From the statement on page 19, line 17, I am assuming that it is also meant for field measurements, but from what has been shown in the manuscript, I would tend to think that the SPIN is a laboratory CFDC. The main purpose of doing these measurements is to see if the background counts (through a filter) is significantly below the INP concentrations. As the ice nucleation community already know, INP are scarce in the atmosphere and background/noise coming from something else than actual INP can totally make the instrument unusable for field studies.

Specific comments :

C1

Page 4 – line 21 : how did the authors measure the thickness of the ice layers ? Is the thickness consistent from an icing to another ? Please clarify.

Page 9 – lines 16,17 : Can the authors show a plot of the background concentration they are considering as ideal before an INP measurement ? It would also be good to include one showing when it is not ideal to keep on sampling.

Page 10 – line 18 : The operation time before stopping the measurements is quite broad (2-5 hours). Could the authors clarify this part ? Which specific conditions (supersaturation, temperature) lead to shorter or longer operating time.

Figures Please increase the font of the figures (from figure 6 to 11).

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2015-400, 2016.

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