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Interactive comment on "Measurement of acidic ions and their qualitative effects on snow crystal morphology and the quasi-liquid layer" *by* T. N. Knepp et al.

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The authors would like to thank Dr. Libbrecht for his helpful comments. Here we address, in order, the changes made in the revised manuscript, and our responses to Dr. Libbrecht's concerns. Dr. Libbrecht's concerns regarding the quality of the air under "clean air"; conditions, and the reproducibility of the results, are addressed in the revised manuscript on pp. 8 and 10, lines 229-237 and 293-308, respectively. To resolve this issue we conducted further study of the chamber air for hydrocarbon, NO, NOx, NOy, NO2, and aerosol content. The results of these measurements are provided on pp. 10-11, lines 301-316 of the revised manuscript. Most significantly, we were not able to reproducibly define the conditions leading to the lack of temperature dependent morphological diversity, though there clearly exists some set of conditions

under which this exists, as stated on p. 10 lines 304-307. Additionally, Dr. Libbrecht proposed an alternative hypothesis that was based on the original chamber schematic, which was drawn incorrectly. We have corrected this drawing, p. 24 Figure 4 in the revised manuscript, and made further clarification in the text (p. 5 lines 135-136). We do not believe outgassing is important because of the continuous flushing with clean air (either from the clean air generator or the hydrocarbon scrubbed Ultra-zero cylinder air), and the fact that the insulation is outside the aluminum inner walls of the chamber. Again, we would thank Dr. Libbrecht for his insightful and helpful comments regarding this manuscript.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 735, 2009.