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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Observation of neutral sulfuric acid-amine containing clusters in laboratory and ambient measurements" *by* J. Zhao et al.

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The authors would like to thank the reviewer for his/her valuable comments. The reviewer's comments and concerns are addressed point by point below.

Line 28 Page 19730 I suggest changing the wording from "Results from ambient measurements" to "Results from ambient measurements using the CIMS without addition of sulfuric acid". It is a little confusing the way it is because both types of measurements are with ambient air.

We have reworded the sentence on p19730.

Line 28 Page 19739 It would be good to have a reference for the measurements referred to in the statement, "based on measurements at other locations"

References (Jiang et al., 2011b; Hanson et al., 2011) have been added.

Line 10 Page 19742 It would be good to add errors on these averages, "For the former, the average percentages of sulfuric acid-ammonia and sulfuric acid-amine clusters in the total size 4 clusters are 37 % and 30 % respectively. For the latter, these percentages become 24 % and 53 %." Without some statistical analysis it is difficult to determine if the authors' statement that 30 and 37 percent are similar while 24 and 53 percent are very different is legitimate, though the graph is fairly convincing, statistics would be of additional benefit.

Uncertainties have been added on p19742," For the 3 s residence time, the average percentages of sulfuric acid-ammonia and sulfuric acid-amine clusters are 37$\pm$10 % and 30$\pm$8 % (2σ) respectively of all size 4 clusters. For the 9 s reaction time, these percentages are 24$\pm$6 % and 53$\pm$7 % (2σ)."

Figure 8 It would be clearer if the bottom axis was labeled Normalized signal of N4 instead of just normalized signal.

Label of the bottom axis has been changed.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 19729, 2011.