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Atmospheric Measurement Techniques Discussions

Interactive comment on "Quantifying amine permeation sources with acid neutralization: calibrations and amines measured in coastal and continental atmospheres" *by* N. A. Freshour et al.

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General Comments:

We have begun modifying the paper and have also nearly finished revising the Supplemental information and so our responses to the referee comments take past, present and future tense.

The primary objection of two of the referees is the stickiness issue: referee 1 essentially states that the quantitative AmPMS ambient amines data cannot be trusted. This belief appears to be based on the lack of stickiness information at low pptv levels of amines.

We appreciate this point of view. In fact, in its first deployment to measure NH3 in Atlanta, AmPMS was not expected to get meaningful amines data yet AmPMS' signals indicated single digit pptv levels of amines (Hanson et al. 2011). False negatives in the amines were very few. Instead, ammonia developed overwhelming stickiness issues: after about ten days of sampling ambient air, the Atlanta 2009 NH3 measurements became erratic with many false negatives.

We believe the ambient AmPMS data has quantitative value and we will include it in the revised version of the paper. We address each of the objections to the ambient data by referee 1. Furthermore, we have changed the title and added language that specifically states our assumption that the stickiness of the amines (in terms of time delays) does not depend on the level of the amine. With these statements, the data can be considered to be an example of applying AmPMS sensitivities. Readers can take (or leave) the quantitative values with this assumption in mind.

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Please see attached PDF for detailed responses to referee 1's comments.

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Please also note the supplement to this comment:
http://www.atmos-meas-tech-discuss.net/7/C1773/2014/amtd-7-C1773-2014-supplement.pdf

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 3835, 2014.