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Atmospheric Measurement Techniques Discussions

Interactive comment on "Peak fitting and integration uncertainties for the Aerodyne Aerosol Mass Spectrometer" *by* J. C. Corbin et al.

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We thank M. Cubison for his comment on our manuscript and for highlighting opportunities where we could better cite his recent work. The citation requests were well justified. These omissions were mostly made because we had completed the submitted manuscript before Cubison et al. (AMTD 2014) came out, and we simply did not do as good a job of reacting as we could have.

The comment by Cubison highlighted Sections 4.2 and 4.3 and the accompanying figures 9 and 10 as being quite similar to the simulations described in Cubison et al. (AMTD 2014). We believe that the figures presented by Cubison et al. (AMTD 2014) are actually more informative, and provide better support of our goals, than our own

figures. So we have chosen to remove these figures and subsections from our revised manuscript. They have been replaced by a citation to Cubison et al. (AMTD 2014). On an unrelated note, we have also realized that the parameterization of Cubison et al. provides a useful estimator for when detailed Monte Carlo peak-imprecision estimation should be performed, as discussed in the revised Section 6.

We believe that we did not misunderstand the treatment of m/z calibration biases or data-point spacing in Cubison et al. (2014). Regarding the latter, we have simply explored a region of lower data-point spacing than was explored in that manuscript. For the former, we were referring to the fact that Cubison et al. (2014) simulated m/z calibration problems in an ideal system, whereas we were discussing m/z calibration problems arising from non-ideality. However, this comment prompted us to specifically cite Cubison et al. (2014) regarding the important possibility of m/z calibration biases even in an ideal system. We have also completely reworded the surrounding discussion to be clearer.

We thank M. Cubison for his constructive comments and are also looking forward to further discussisons on this topic, especially with regard to the estimation of fitting imprecisions for overlapping peaks.

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