**Atmospheric
Chemistry
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Discussions**

Interactive comment on "Estimation of the mass absorption cross section of the organic carbon component of aerosols in the Mexico City Metropolitan Area (MCMA)" *by* J. C. Barnard et al.

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Some recent work has shown that filter-based absorption measurements of BC (like the PSAP) are affected by organic matter. For instance, the work by Chris Cappa comparing the PASS and PSAP (it was recently presented at the ICCPA, and is "in press" at Aero. Sci. & Tech.) shows that PSAP absorption (usually attributed to BC after scattering corrections like Bond et al. 1999) is enhanced by organic matter, so that the measured BC is actually biased high. Since the Aethalometer is basically a similar measurement as the PSAP (light transmission through a fibrous filter), this bias will likely affect the Aethalometer as well.

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[My "yellow beads" paper in AS&T suggests this is due to liquid organic matter forming films/beads on the fibers whether PSAP or quartz fiber filters, hence my assertion that Chris' results are applicable - in a broader sense - to the Aethalometer as well.]

This affects the results of the current manuscript in two ways: the calculated H (Eq. 2) may be biased low, and the absorption attributed to OC (numerator in Eq. 5) may also be biased low (which might explain the zero/negative MACs?) One possibility is these errors exactly cancel each other, but that seems improbable at first glance.

Comment?

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 10189, 2008.

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