Atmos. Chem. Phys. Discuss., 10, C1630–C1631, 2010 www.atmos-chem-phys-discuss.net/10/C1630/2010/ © Author(s) 2010. This work is distributed under the Creative Commons Attribute 3.0 License.



ACPD 10, C1630–C1631, 2010

> Interactive Comment

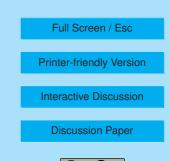
Interactive comment on "Brown carbon and water-soluble organic aerosols over the southeastern United States" by A. Hecobian et al.

Anonymous Referee #1

Received and published: 14 April 2010

General comments

This manuscript describes results of a very impressive study of optical absorption properties of water-soluble aerosol compounds from a large number of filter samples, and also from particles analyzed in real time by a particle-into-liquid collector coupled to a UV/vis spectrometer. This manuscript provides several useful insights into the nature of light-absorbing organic compounds. The most interesting observation in my opinion is the evidence that water-soluble compounds of secondary organic aerosol can make a measurable contribution to the aerosol absorption. Equally interesting is the evidence that light-absorbing compounds can appear in organic aerosol by aging occurring on time scale of hours. The manuscript is well written, and requires no significant revisions. It was a pleasure to review it.





Specific comments / technical corrections

Equation 1: subscript by C should be i, not 1.

Page 76 11 and elsewhere: The term "absorbance spectrum" should be avoided; "absorption spectrum" is more appropriate. Absorbance has a very narrow meaning of a qualitative measure of optical absorption by a sample of given concentration within a cell of a given length. Absorption has a broader meaning.

Page 7606: aerosol in (Bones et al., 2010) was made without ammonia. I was aged in the presence of ammonia and humidity. This study also falls in the category of "a variety of aqueous phase reactions" cited in the next sentence.

Figure 2 (and some other figures as well): some of the labels may be invisible after sizing to the half-column width. I would probably increase the fond size for some of the labels.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 7601, 2010.

ACPD

10, C1630–C1631, 2010

Interactive Comment

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

