Atmos. Chem. Phys. Discuss., 9, C2296–C2297, 2009
www.atmos-chem-phys-discuss.net/9/C2296/2009/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Positive sampling artifact of carbonaceous aerosols and its influence on the thermal-optical split of OC/EC" *by* Y. Cheng et al.

R. Subramanian

randomsubu@gmail.com

Received and published: 27 June 2009

I thank the authors for their quick response.

Reply to Comment #1: In their proposed amendment (page C2292), I must emphasize that Subramanian et al. do not talk about OC pyrolyzing into non-light-absorbing carbon, rather the concern is simply of non-light-absorbing carbon slipping into the HeOx mode - whether that is due to too low an inert-mode peak temperature or due to pyrolysis of OC. I would be more comfortable with a statement like this: "OC not completely evolving in the He-mode (Schauer et al. 2003, Subramanian et al. 2006)." - which covers all possibilities.

Reply to Comment #2: The IMPROVE-A protocol may be suitable for the Beijing sam-

ples. But have the authors experimented with different temperature protocols to show that the IMPROVE-A is suitable for Beijing samples, and that a peak inert-mode temperature of 580 C (an increase of just 30 C in the peak inert-mode temperature from the usual IMPROVE protocol) is adequate to avoid slip of non-light-absorbing carbon into the HeOx mode?

Reply to Comment #3: If Subramanian et al. (2004) showed that (Q-QBQ)-OC was "almost the same" as the denuded particulate OC (Q+CIG), how is it reasonable to say that "according to Subramanian et al., QBQ OC underestimated the positive artifact for a sampling volume of 24 m3"? This is simply an incorrect interpretation by the authors! As Subramanian et al. (2004) state in the abstract: "The quartz behind quartz (QBQ) approach provides a reasonable estimate of the positive artifact on the bare quartz filter for the 24 h samples but not for the shorter samples." It would be correct if the author's statement referred to smaller sampling volumes like 4-6 m3, as is the case for the samples in the current study.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 13739, 2009.