

***Interactive comment on “Size distributions of elemental carbon in a coastal urban atmosphere in South China: characteristics, evolution processes, and implications for the mixing state” by Xiao-Feng Huang and Jian Zhen Yu***

**Anonymous Referee #1**

Received and published: 17 September 2007

1. MOUDI normally uses Al foil as the impaction substrate which does not adsorb organic compounds. How does substituting quartz for Al change the size cut for the stages? The spacing between the stages becomes narrower due to increase in the thickness of quartz filter over Al foil. This in turn affects the aerodynamics of the particles and thus the size cuts. Changes in the impaction efficiency can also affect the amount collected at each stage, thus altering the mass distribution by size.

2. Without pyrolysis correction, how does one account for the pyrolytic EC from the adsorbed organic gases in the quartz filter? The fraction of adsorbed organic com-

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pounds (hence the apparent EC) may vary with the stages and may not be always a constant proportion or amount of the OC on each stage. So this can skew the observed (apparent) amount of EC on each stage and hence the size distribution.

3. While the paper showed similar distribution regardless of run time used for the OC/EC split, the accuracy of the size fraction may be in error due to (1) and (2).

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Interactive comment on Atmos. Chem. Phys. Discuss., 7, 10743, 2007.

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