Atmos. Chem. Phys. Discuss., 8, S9603–S9605, 2008
www.atmos-chem-phys-discuss.net/8/S9603/2008/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Fossil and non-fossil sources of organic carbon (OC) and elemental carbon (EC) in Göteborg, Sweden" *by* S. Szidat et al.

S. Szidat et al.

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Comment 2/01: The strength of the study would have been improved if the results were supported by additional measurements such as NOx and CO.

Reply to comment 2/01: We will add concentrations of NOx and CO averaged over the sampling times of the high-volume filters and compare trends within the discussion of the ^{14}C data.

Comment 2/02: Abstract: I would prefer to have some absolute values in the abstract e.g. concentrations of OC and EC in order to describe the study area for the reader and relate the presentation of relative values to absolute values.

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Reply to comment 2/02: We will insert this sentence: "Total carbon (TC) concentrations were 2.1-3.6 μg m^{-3}, 1.8-1.9 μg m^{-3}, and 2.2-3.0 μg m^{-3} for urban/winter, rural/winter, and urban/summer conditions, respectively".

Comment 2/03: Introduction: In the introductory discussion of PM the following sentence needs clarification: The carbonaceous fraction, which is a main constituent of PM, contributes to these effects due to their particulate character. P16257 Line 5: the lighter fraction - you probably mean low molecular weight?

Reply to comment 2/03: We will clarify the first statement this way: "As a ubiquitous component of PM, carbonaceous aerosols substantially contribute to these climate and health effects". Furthermore, we will change "lighter fraction" into "low-molecular weight fraction".

Comment 2/04: Results: The calculation of the combined measurement uncertainty should be described and discussed in more details in the text.

Reply to comment 2/04: The calculation of the combined measurement uncertainties using LHS will be described in more detail in section 2.5. With all these additions and with the already existing material in section 3.5, however, the uncertainties are discussed with enough detail to our opinion.

Comment 2/05: Figures 1, 2, 3 and 5. The figures are too small. It is difficult to see back trajectories on figs 1 and 2. The different fractions should be clearer in fig. 3 (suggestion: one in black, one in white).

Reply to comment 2/05: We totally agree with this comment and expect that the figures sizes are enlarged by the ACP production office for the publication of the final paper. To our opinion, this will especially clarify Fig. 3.

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Comment 2/06: Discussion: Page 16271: The high f_M(EC) in the second sample 20-27 June could be caused by the midsummer tradition in Denmark, where every town has a bonfire on June 23. Apparently these fires are too small to be visible on MODIS fire maps.

Reply to comment 2/06: We will consider this helpful comment.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 16255, 2008.

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Interactive Comment