

Interactive comment on “Particle size distribution and particle mass measurements at urban, near-city and rural level in the Copenhagen area and Southern Sweden” by M. Ketzel et al.

Anonymous Referee #1

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MS-NR: 2003-103 Title: Particle size distribution and particle mass measurements at urban, near-city and rural level in the Copenhagen area and Southern Sweden Authors: M. Ketzel, P. Wåhlin, A. Kristensson, E. Swietlicki, R. Berkowicz, O. J. Nielsen, and F. Palmgren

General comments: The paper is of good scientific and technical quality. Ambient aerosol measurements are presented with a good astructure and a well defined scope. The paper has a good scheme: City of Copenhagen acts as the source of emissions, Prevailing wind directions are known, of which in both directions a measurement site is located. Also, appropriate data from urban and even kerbside sites are included.

Both number size distributions and aerosol mass have been measured with experience:

ToN correlates with Nox, ToV correlates with PM10. Also evolution of aerosol size distribution from kerbside aerosol to 'urban source aerosol' can be seen, or at least is assumed to be seen. This behaviour is logical, and probably the assumption is true. There is some speculation of the ongoing processes, but since no quantitative detailed data is available, no further conclusions can be drawn.

Furthermore, the relevance of total mass/volume ToV and total number ToN to act as air quality measures, with their limitations, are discussed.

Specific comments:

Suggestion: Figure 11 is a little bit difficult when, after all, the message is rather simple. Maybe the actual (absolute) bars could be more visible to help the reader to comprehend the picture.

One minor error can be found in last paragraph of 3.6. where should read a reference to Fig. 11, instead of to Fig. 10.

Otherwise, I recommend the publication of the manuscript in the present form.

Interactive comment on Atmos. Chem. Phys. Discuss., 3, 5513, 2003.

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