

## ***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 #2**

Received and published: 15 December 2003

#### General comments

This manuscript describes the characteristics of an urban aerosol. Measurements at three stations (urban, near city and rural) were used to investigate the contribution of local versus regional aerosol. Evaluation and discussion of the number concentration of particles has been done with respect to NO<sub>x</sub> and meteorological parameters. The conclusions in the paper are based on scientific relevant observations and the discussion is clear. Personally, I would prefer less 'collegial' language in the text, i.e. avoiding use of 'we' and letting the reader formulate the scientific questions from the facts in the text. However, I recommend publication after minor revision considering the specific comments outlined below.

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## Specific comments

Page 5517 Line 7-9. It is not clear when the 'sub-set' of 2.5 weeks took place. From Fig 3 it seems like it was 07-27 October. Clarify the dates (period) of the 'sub-set'

Page 5517 Start line 20. Were there any systematic differences between the used DMPS? I.e any intercomparisons? Since the difference in concentration and size distributions are used in the evaluation this information could be valuable.

Page 5519 Line 7-11. There are remarkable good correlation between the two meteorological sites. Is there any chance to validate that also the Vavihill station exhibit the same meteorological variation? If not, how does this influence the outcome of the comparison?

Page 5520 Line 15-28. This text is speculative! Does the observations merits using the word 'indicates' four times and continuing with probably on the next page? Rephrase or reduce.

Page 5522 Line 2-3. Was NO measured or just NO<sub>x</sub>? If so, why is not NO used as traffic indicator instead of NO<sub>x</sub>?

Page 5524 Line 19. Delete

Page 5525 Line 27-28. This sentence is not linked to the rest of the discussion and can therefore be moved to 'experimental'.

Page 5526 Line 13. Is ToN same as the ultrafine fraction? This should then be clarified in the beginning of the paper.

Page 5527 Line 15. This statement contradicts that 'NO<sub>x</sub> has a relative constant background level of 5-10 ppb' (page 5520, line5-6). One of the two statements should be removed/rephrased.

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

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