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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Remarkable dynamics of nanoparticles in the urban atmosphere" *by* M. Dall'Osto et al.

Anonymous Referee #2

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The paper is a nice compilation of data showing that evaporation is a plausible reason for the different particle size distributions measured at different sites. This has been discussed for a while, but I have seen no data showing this, even though simple calculations have shown that it is highly probable.

1. The data upon where the paper is based is from different sites and different times, thus this would be much easier to follow if both the sites and the equipment used at each site. Either one big table or two smaller. This also makes the authors aware that all information is not in the text, e.g. the traffic at each site. a. Suggestion for Table-headings in section 2.1: site, site description, height over ground, traffic count, Comment b. Suggestion for Table-headings in section 2.3.1: site, time frame (e.g. Oct

2003), time resolution (4min30sec scan), equipment (SMPS, CPC etc) and comment (reference or campaign name etc)

2. Please use descriptive names, e.g. M. Road instead of MR, and the same name throughout both text and figures.

3. Section 2.3 was there big differences between the Octobers by pollution level, weather, traffic etc? Might be nice to add a table on these numbers for the reader to make his/her own opinion.

4. Organic carbon???

5. Nano particle evolution: the data used to support the insight that the "dilution" of ultrafines is larger than the dilution of PM10 or EC is not worked through; the EC in the park and the tower is related through regression and the pm10 by a ratio. The particle number on the other hand is related between different sites (Kensington and Tower). This does put extra doubt that this data really supports the conclusion. Maybe this can be calculated somehow. Needs further discussion or data!

6. Page 30664, line 7, "A second independent study," seem to refer to "The part of this study described in section 2.4,"

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 30651, 2010.