

## ***Interactive comment on “Production, growth and properties of ultrafine atmospheric aerosol particles in an urban environment” by I. Salma et al.***

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The authors thank Referee #3 for his/her detailed comments for further clarifying and improving the ACPD paper. We have considered all recommendations and revised the MS substantially. The most important alterations include:

- condensation sink, gas-phase H<sub>2</sub>SO<sub>4</sub> proxy and residence times for H<sub>2</sub>SO<sub>4</sub> vapour and freshly formed particles were calculated, and a whole new section (including a new figure and a table) on their importance, relevance and results was added, as requested by some of the Referees and the handling Editor;
  - diurnal variation of particle number concentrations in two size fractions calculated
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separately for event days and non-event days were prepared, and the results were included into the interpretation as a new section including a new figure, as requested by one of the Referees;

- the section on mean number size distributions was substantially revised, new results and additional interpretation were included;
- further evidence was provided at many places in the text, e.g., to support that the Fig. 4b type contour plots are related to direct emissions, to explain the smaller time variation in daily mean number concentrations with respect to PM<sub>10</sub> mass concentrations;
- the statement on the presence of aged aerosol before new particle formation event starts (that was considered to be not fully justified) was completely removed;
- improved and explicit interpretation at several places with more detailed background information, firmer arguments and better explanations;
- Conclusions were reformulated substantially and were clarified.

We believe that the MS contains a large number of valuable information, and that its major weaknesses were all removed.

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