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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Charged and total particle formation and growth rates during EUCAARI 2007 campaign in Hyytiälä" *by* H. E. Manninen et al.

H. E. Manninen et al.

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Answers to the referee comments by Anonymous Referee #2 on our manuscript "Charged and total particle formation and growth rates during EUCAARI 2007 campaign in Hyytiälä" by H. E. Manninen et al.

We thank the referee for the constructive comments to help us to improve the manuscript. Our detailed answers to the comments are as follows.

General comments 1. The paper is very difficult to read for researchers that are not explicitly specialists in the field. For instance, the authors may want to add some explanatory sentences to Section 2.1.1. The complementary character of the various instruments should be discussed in particular because the data measured by them

were often compiled and evaluated together, which raises the question whether there were non-negligible systematic shifts (artifact) between these data sets that may led to misinterpretation. Detecting aerosol particles as small as 2 nm in diameter is a real challenge, and therefore the principle of the CPCB could be also summarized briefly and not just referred.

We clarified the section by, for instance, adding explanatory sentences about instrument description in the revised manuscript.

Technical corrections 2. The expression "for sample detection"; on p. 5124, line 13 is misleading and should be improved.

We modified the expression to "for measuring charge on aerosol particles".

3. The word "charge"; on p. 5130, line 19 should be changed to "charged".

We agreed, and modified the revised manuscript accordingly.

4. The expression "error"; on p. 5133, line 23 is to be replaced by "relative uncertainty" according to the ISO nomenclature.

We modified the revised manuscript as suggested.

5. It is not fully justified that those NPF events Class II for which neither growth rate nor formation rate were derived are shown in Table A1.

The class II events typically had a difficult and unclear shape of growing mode due to inhomogeneity of the air mass that complicates their further study and the growth rate is obtainable only for some of these events. Table A1 is used to list all the NPF event days during spring 2007 in Hyytiälä. Therefore, class II events should be included in the table. Table A1 is meant to support Figure 1.

6. The axis legend for the abscissa in Figs. 1 and 4 is labeled as Time, while in Figs. 5 and 8, it reads Date. I suggest that the authors change the labels for the former figures to Date.

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We agreed, and made the labels consistent.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 5119, 2009.

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Interactive Comment