Atmos. Chem. Phys. Discuss., 10, C13815–C13816, 2011
www.atmos-chem-phys-discuss.net/10/C13815/2011/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Evaluation of the accuracy of analysis tools for atmospheric new particle formation" *by* H. Korhonen et al.

Anonymous Referee #2

Received and published: 18 February 2011

The paper "Evaluation of the accuracy of analysis tools for atmospheric new particle formation" by Korhonen et al aims on testing and evaluation of the nucleation events analytical tools using large set of artificially created nucleation events. The paper is well written, but in very condensed language and it takes several times reading it for good understanding. Although it is addressed to a specific group of readers working intensively with new particle formation and for them this will likely not be a problem.

General comments

For a broader audience, I suggest to include more descriptive information what are the parameters discussed in the paper, either in a form of text or in a form of schematic figure.

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Interactive Discussion
Discussion Paper

Besides detail recommendation what error nucleation event analysis tools have? What is the main message of the paper? As far as I can see all the tools used do not introduce error significantly larger then is our understanding of the new particle formation process. They actually do pretty good job with respect to our level of understanding the nucleation. To what degree this can be accounted to fact that UHMA model used in this study has built in processes and equations developed from tools the model is used to investigate?

In our current understanding of nucleation and new particle formation, molecules responsible for growth from cluster size (likely organics, amines?) are probably largest unknown. To what degree your prescribed model organic vapor influences the results? What if there is more than one compound participating and/or growth from cluster size is not "linear" controlled by condensation of one vapor and coagulation?

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 26279, 2010.