

Interactive comment on “Conceptual study on nucleation burst evolution in the convective boundary layer – Part IV: Comparison with previous observations” by O. Hellmuth

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Conceptual study on nucleation burst evolution in the convective boundary layer - Part IV: Comparison with previous observations

General comments to all papers are given under paper I.

Special comments: Page 11568, line 25: Although this statement was already commented by Referee 1 and 2 I believe some further explanation are needed. ‘No connection between the photosynthetic activity of the forest and the particle formation occurrence was observed, based on CO₂ measurements’. Ongoing research about the

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contribution of organic species are showing more and more the importance of the reaction products from different terpenes and especially the products of sesquiterpenes are assumed to be able to participate also in the nucleation process. However, the emission scenarios of these precursors are not yet understood. Up to date unpublished research results show the possibility that this species are emitted through higher ozone concentrations or other different meteorological and environmental influences. So the statement above from the author to combine forest activity with NPF is too hypothetical. We are at the beginning to understand the emission activities of higher terpenes and understand nearly zero about the chemical reactions of this species at this time. I would further encourage the author also to make a statement about the possibility that organic compounds could participate to the nucleation especially in rural areas with lower sulfuric acid concentrations. There is high evidence that sulfuric acid is part of the NPF process, however until now we have no proofs that it is the only and most important parameter.

Page 11559, line 24: lateron should be later on

Page 11560, line 2: photoxidation should be photooxidation

Page 11571, line 22: Lateron should be Later on

Page 11572, line 14: magnitude should be magnitudes

Page 11575, line 25: Ë and the neglection Ë should be Ë and to neglect Ë

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 11557, 2005.

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