

Interactive comment on “Spatial and temporal distribution of atmospheric aerosols in the lowermost troposphere over the Amazonian tropical rainforest” by R. Krejci et al.

Anonymous Referee #1

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The paper addresses very important question of the formation of the atmospheric particles over the Amazonian rainforest. The observed increase of the accumulation mode number densities is attributed both to emission of primary biogenic particles and processing in convective clouds. The collected field data could not provide the final answer on the mutual significance of these two processes, neither the detailed information on the underlying processes (like stomatal activity linked to biogenic particles). Nevertheless, the paper is very relevant contribution on the topic.

In the first stage, I would like to raise a couple of questions for discussion:

1. The paper could contain a bit more discussion why, as far as I know, there are no earlier observations of biogenic formation over rainforest. Is this due to lack of proper

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measurements or were the conditions (atmospheric conditions, field site) in this study somehow different? The recent review paper by Kulmala et al., J. Aerosol Sci. 35 (2004), 143 cites more than 100 publications reporting ultrafine particle observations but there is not a lot about Amazonian rainforest. 2. p. 3582, paragraph starting on line 11: what is the meaning of reporting CO₂ data in this context, what does it tell as regards particles and nocturnal residual layer? What is the hypothesis mentioned on line 21?

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 3565, 2004.

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