

Interactive comment on “Estimated variability of below-cloud aerosol removal by rainfall for observed aerosol size distributions” by C. Andronache

Anonymous Referee #1

Received and published: 23 December 2002

The article describes the modeled Below-Cloud-Scavenging (BCS) of aerosol particles. The article touches an important problem of the modeling of atmospheric aerosol size distributions and is thus important for the atmospheric science community.

The articles should be however significantly improved in terms of the description of the aim and results. The article seems to be written for a small expert group rather than for the entire community.

I suggest following improvements:

The abstract does not really describe the content of the paper, or at least the balance between different aspects is not given.

Full Screen / Esc

Print Version

Interactive Discussion

Original Paper

The introduction describes in many paragraphs the state of art und probably the entire existing literature, but does not give a description for what the goal of the entire effort is. What should come out of the investigation and for which users? Please, lead the reader to your study!

The method part is a mixture of text book (i.e. eqn. 8) and expert knowledge. Please leave the well know equations out of the text. Please, describe better what the physical meaning of $L(d)$ and L_m is and what the community can learn from these values. This is important for all studies described later in the text.

I don't know why the old size distributions from Jaenicke are taken in the beginning (there are not really true in many cases). I suggest only to use the measured size distribution.

I like to use real data, but for the reader it would be more illustrative to show the change in the size distribution as function of the rain density.

It is not clear for me why the author compared his data with those from Sparmacher (0.23 and 2.16 μm). It is not explained why the author has taken this diameters, or what the difference between Sparmacher and his investigations is. It seems to me that this comparison is meaningless.

So, I encourage the author to make the article better understandable and more illustrative for people outside of the community.

Interactive comment on Atmos. Chem. Phys. Discuss., 2, 2095, 2002.

[Full Screen / Esc](#)[Print Version](#)[Interactive Discussion](#)[Original Paper](#)