

Interactive comment on “What does reflection from cloud sides tell us about vertical distribution of cloud droplet sizes?” by A. Marshak et al.

A. Marshak et al.

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We completely agree with the Rev. 2 comments. Unfortunately, we have to admit that at least the first three authors haven't previously read the papers mentioned by the reviewer. After reading the comments, we got them from the web, carefully read them and learned a lot from both papers. The reviewer is absolutely right: both papers are very appropriate for the current manuscript and should be not only referenced but also discussed in the manuscript when we are talking about T - reff vertical profiles. In the revised version of the manuscript we will add the discussion about the stability of reff for a given temperature at two places: at the end of the manuscript (pg. 7222) and at the end of introductory section (the end of first paragraph on pg. 7221).

We also agree that our radiative transfer model should simulate the brightness temperature and it does. It simultaneously calculates radiance at four wavelengths: 0.67, 2.1,

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2.25 and 11.6 microns. In this paper we discussed ONLY the results of 0.67 and 2.1 micron wavelengths leaving 2.25 and 11.6 micron wavelengths for another paper with Vanderlei Martins as the leading author.

We would like to emphasize that this paper is mostly focused on the numerical aspects of a new interpretation of simultaneous measurements of visible and near infrared radiances reflected from cloud sides with respect to reff. It is based on many realizations of a cloud stochastic model and serves just as a proof-of-concept for cloud side remote sensing.

Finally, we agree that figures have to be enlarged and we will work on it together with a technical editor of ACP.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 7207, 2006.

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