

Interactive
Comment

Interactive comment on “Extinction coefficients retrieved in deep tropical ice clouds from lidar observations using a CALIPSO-like algorithm compared to in-situ measurements from the Cloud Integrated Nephelometer during CRYSTAL-FACE” by V. Noel et al.

Anonymous Referee #1

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In this paper, the authors provide an intercomparison of retrieved extinction coefficients from a CPL with CIN measurements in ice clouds. This topic is extremely important in the framework of the cloud physics knowledge. The paper is well presented and well written, I recommend it for publication in ACP.

Specific comments:

p.10650, l.9 : at this time of publication, the CALIPSO mission has successfully been

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launched.

p.10655, l.10 : any references for the use of this quadratic function?

p.10655, l.17 : multiple scattering is here neglected according to the measurements conditions (small field of view of the instrument and nearness of the cloud). How would it be considered from space? Does this reduction allow a CALIPSO Deep Convection algorithm validation? This should be discussed in the paper.

p.10657, l.8 : depending on atmospheric and wind conditions, a 6 min delay between both aircraft may imply and explain the differences on retrieved parameters. Would it be possible to estimate and anticipate those differences through any quantitative and qualitative ways?

p.10658, l.19 : if known, the authors should comment if this 11% difference has a negligible or non-negligible impact on the estimation of clouds radiation budget.

No typographic errors.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 10649, 2006.

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