

Interactive comment on “Retrieval of cloud spherical albedo from top-of-atmosphere reflectance measurements performed at a single observation angle” by A. Kokhanovsky et al.

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Both reviewers have what are in my opinion major technical objections to the manuscript. The response of the authors to these objections is terse to the point of being non-responsive. In particular, the comment by Referee #3 that, in the absence of a direct comparison between independent estimates of cloud spherical albedo and results from the formula proposed by the authors, one cannot know if the proposed method produces accurate results is a huge omission in the manuscript. I do not think the author's response that Fig. 2 addresses this issue is sufficient. Fig. 2 shows the comparison between the exact formula and their approximate relation, it does not show

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spherical albedo measured or estimated independently compared with the results from their formula. For something like this, which is proposed as a general method, documenting the conditions under which it may be reliably used by showing how it compares to other methods is a critical, and required, part of the process.

The authors use Fig. 2 again as a response to a separate objection by Reviewer 1. The authors would be better served to substitute a comparison of spherical albedo derived independently for a number of different cloud types and conditions with albedos retrieved by their relation. That comparison would answer the objections raised by both Reviewer #1 and #3.

Therefore, I am returning the manuscript to the authors for major revisions based on these reasons.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 2175, 2006.

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