

Interactive comment on “Cloud Products from the Earth Polychromatic Imaging Camera (EPIC): Algorithms and Initial Evaluation” by Yuekui Yang et al.

Anonymous Referee #3

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This paper provides a brief and succinct description of the algorithms leading to the cloud products from the EPIC instrument on the DISCOVER spacecraft. The results are compared with similar retrievals from geostationary and polar-orbiting satellite instruments. I have only minor comments regarding the conclusions drawn from the comparison with other retrievals. The paper should be suitable for publication after some minor revision.

In the abstract (line 21) and again in section 3.2 (line 9, p. 8) the authors claim that the comparison of the EPIC retrievals with retrievals from other instruments demonstrate that the EPIC retrievals are “consistent with theoretical expectations” or “theoretical

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predictions”. But these claims are not clearly justified. Can the authors elaborate on what they mean by “theoretical expectations” and clarify quantitatively how the EPIC results demonstrate consistency?

Furthermore, the comparisons are not discussed in any sort of quantitative manner in the narrative. While the quantitative comparison is present in the figures, the text provides merely qualitative conclusions such as “in general, the two products match each other well” (line 32, p.8). This, of course is a close to meaningless statement when comparing two quantities that each have some uncertainty. Much more meaningful would be if they agree within the range of expected uncertainty. And if that is the case, then naturally one would need to know the reasonable range of uncertainty for the retrievals. If the authors expect other members of the community to use these products and cite this paper as evidence that they are suitable for atmospheric research purposes, then they should make a credible effort to offer realistic uncertainty bounds.

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