

The Generation of EarthCARE L1 Test Data sets Using Atmospheric Model Data Sets

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Special issue: EarthCARE Level 2 algorithms and data products

Reply to Anonymous Referee #2

We thank the reviewer for the comments. All the specific minor comments and typos noted by this reviewer are being addressed.

Reply to the Major Comment

In summary, the reviewer has concerns that “...that the discussion suffers from weak qualitative comments.” and that the short presentation “...weakens the way the ECSIM’s potential is shown”. The reviewer also presents two interesting examples where more quantitative information would be valuable (Aside: A study using ECSIM of e.g. ATLID vs CALIPSO cloud penetration statistics would be indeed be interesting, but would be a paper in itself though!)

If this were a *stand-alone* paper, then the reviewer’s concerns would indeed be well justified! However, this paper is part of a special issue and should be evaluated in this context. The main goal of this paper is to document of means by which the simulated L1 data used by the large majority of the 15 or so other papers within the special issue were generated (https://amt.copernicus.org/articles/special_issue1156.html). These papers cover the full range of EarthCARE algorithms and instruments and contain many new and detailed results. It was a deliberate decision to keep the simulation paper concise and general, while the e.g. the various algorithm papers would go into specific depth.

However, following the reviewer’s concerns, it is apparent that it would be useful if we add more in the way of quantitative discussion within the paper. Also, perhaps more importantly, we need to make the context of the paper much clearer and make stronger explicit links to specific results presented within the other special issue papers. We will perform a general edit of the paper in order to make these general improvements. We will, however, refrain from the addition of any substantial amount of new material.