

Interactive comment on “Consistency of aerosols above clouds characterisation from A-Train active and passive measurements” by Lucia T. Deaconu et al.

Anonymous Referee #2

Received and published: 30 May 2017

In this study, the authors compare and analyse the consistency of the AOT and AE retrievals above clouds from different passive and active remote sensing instruments (namely CALIOP and POLDER). Comparisons are conducted in the framework of a) three case studies corresponding to an African biomass-burning event, a Saharan dust event and a Siberian biomass-burning event; b) a regional scale analysis, over South Atlantic Ocean, North Atlantic Ocean and North Pacific Ocean for a period of six months in 2008 and c) a global scale analysis for different vertical layer distributions for the period 2006–2010.

The paper is well written and well structured which makes it enjoyable to read in spite of the very complex methodological concepts and tedious analyses it conveys. The

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paper is well suited for AMT and certainly deserves publication, after addressing a minor point. I am aware that the authors only claim to check the consistency between the products, but a comparison of the products to actual airborne measurements made during field experiments off the coast of the Africa continent would be very good. Since the mid 2000s, a large number of airborne campaigns have attempted to characterize aerosols properties off-shore of West Africa (SAMUM 1 & 2, DODO, DABEX, AMMA, NAMMA, ICE-D, SALTRACE, DACCIWA) and southern Africa (SAFARI, and recently ORACLES). At least the authors should explain why they have not attempted to do so.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2017-42, 2017.

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