

Interactive comment on “CALIOP near-real-time backscatter products compared to EARLINET data” by T. Grigas et al.

Anonymous Referee #3

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This article describes an evaluation of (lev 1.5) attenuated backscatter profiles from the CALIOP space lidar with EARLINET ground-based lidar profiles, based on a 3 years dataset from 2010-2012. It investigates the agreement of profiles depending on the ground-track vs EARLINET station distance, the altitude of aerosol layers, the aerosol type and separate for the planetary boundary layer (defined as the lowest 2.5km) and the free troposphere. Two specific cases are discussed in detail. The topic is relevant and interesting for ACP readers, because this CALIOP data product at present is the only mature operationally available near-real-time aerosol profile information with global coverage, suitable for assimilation into global forecast models. The article is well structured, understandable and fits well into the MACC special issue. Many of the conclusions are sound but some of them are not yet convincing. Particularly the

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discussion requires considerable improvement, stating the significance, consequences and applicability of the results for the development of NRT aerosol profile assimilation. Therefore, I recommend that some significant revisions are done before it is published in ACP (minor revisions).

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/15/C1207/2015/acpd-15-C1207-2015-supplement.pdf>

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 15, 6041, 2015.