Interactive comment on "Looking through the haze: evaluating the CALIPSO level 2 aerosol optical depth using airborne high spectral resolution lidar data" *by* R. R. Rogers et al.

R. R. Rogers et al.

rrr1980@gmail.com

Received and published: 6 October 2014

Thank you for your comments and suggestions. We've made the minor changes you suggested and the supplement attached contains additional clarification for some of the points you made.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 6141, 2014.

Interactive comments on "Looking Through the Haze: Evaluating the CALIPSO Level 2 Aerosol Optical Depth using Airborne High Spectral Resolution Lidar Data" by Rogers et al.

General comments:

It is also interesting that the authors didn't directly estimate the aerosol-layer-height (base and top) from the highly accurate HSRL aerosol profiles, but use the CALIOP reported aerosol-layer-height to estimate HSRL aerosol-layer-AOD (Page-6151, Lines 4-6 from page-top). The benefit of using the same base and top is clearly that one can more clearly attribute observed AOD differences to the different lidar-ratios used in the CALIOP and HSRL algorithms. However, the aerosol-layer-base and top are also important to estimate aerosol-layer-AOD and evaluate CALOP aerosol-layer detecting capability. Thus, a directed study to assess the CALIOP aerosol-layer-height from the HSRL profiles should be considered in the future.

We agree that the CALIOP aerosol layer base and top are important products to consider in the future in order to best assess the CALIOP layer detection capability. Currently HSRL has no similar base and top product since the HSRL technique simply solves regardless of the layer (or lack thereof), however a future study is possible.

Specific/Minor comments:

1. In the Abstract: please give the CALIPSO data Version (V3.01, V3.02 or V3.03?).

Clarified, thanks. We used V3.01 and 3.02.

2. In the section 2.4, "Data collocation and data screening". Are the CALIOP quality flags of "Extinction QC 532" and "FeatureFinderQC" used?

No, only the CAD score.

Fig. 1.