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Comment

## ***Interactive comment on “Comparison of CALIPSO aerosol optical depth retrievals to AERONET measurements, and a climatology for the lidar ratio of dust” by G. L. Schuster et al.***

**G. L. Schuster et al.**

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Thank-you for the nice comments, and pointing us to the enjoyable Merikallio paper. You are correct that there is discussion about the ability of spheroids to model irregular particles in the literature that should be included here. We mentioned this briefly in the original draft (page 25, line 18), but we have also added the following sentence to that section:

Spheroids (and spheres) are simplifications of the myriad of complex shapes associated with aeolian dust, after all, and the savvy reader will be interested in the ongoing discourse on this topic (Nousiainen, 2009; Merikallio et al., 2011).

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We have also added the following sentence to the first paragraph of section 4.1:

We consider this to be a relatively conservative constraint for the AERONET lidar ratios, since Merikallio et al. (2011) found the depolarization ratio of spheroids to be biased low of measured values for several dust samples.

Unfortunately, altering the CALIPSO lidar ratio for these comparisons is not possible at the moment.

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 11641, 2012.

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