

Interactive comment on “Aerosol Single Scattering Albedo retrieved from ground-based measurements in the UV-visible” by V. Buchard et al.

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Answers to referee #2 comments, received and published on 31 August 2010, on the manuscript:

“Aerosol Single Scattering Albedo retrieved from ground-based measurements in the UV-visible”

General comments:

The authors describe a method to derive spectral SSA information from measurements

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with ground based scanning photometers. Results are compared to measurements from the aernet network. Knowledge of (optical) properties of aerosols are important to understand their role in the radiation balance of the atmosphere. The manuscript is well written and therefore I recommend publication in AMT after minor revision, taking into account following remarks.

Are there particular reasons to limit the study to 2003 and 2005-2006, or can the time period be extended. This would be interesting to get a better impression of possible annual cycles, year to year variability etc.

Reply: Due to technical problems, there was an interruption of the spectral measurements in 2007, this is why we have limited our study to 2003 and 2005-2006. This paper shows first results of the SSA retrieved from ground-based measurements performed at VdA. Additional analysis will be made in the future using a new spectroradiometer (BENTHAM) acquired by the laboratory.

P3182-3183: As the scans for global and diffuse irradiation are alternating, it is necessary to be sure that there are no changes in the sky conditions in between. An explanation on how this was achieved would be very interesting (rapid changing clouds, changing solar position).

Reply: We agree that such info is useful, so we have added in the text a short explanation about that, p. 3183, line 6: "To ensure that clear sky conditions are met during the three scans, the 3-min period measurements of a YES UVB-1 radiometer, close to the spectroradiometer, are examined"

Please use VdA consequently after introducing it at the first appearance.

Reply: It has been done.

Figures 3a, 3c, 4a and 4c can be combined in one by using different symbols for the different spectra and different colors for the two days. The scale should be adapted to the range of the data. Similarly, figures 3b, 3d, 4b and 4d can be combined.

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Reply: As suggested by the reviewer, the figures 3 and 4 have been combined in one.

Interactive comment on Atmos. Meas. Tech. Discuss., 3, 3179, 2010.

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