

## ***Interactive comment on “Intercomparison of shortwave radiative transfer schemes in global aerosol modeling: results from the AeroCom Radiative Transfer Experiment” by C. A. Randles et al.***

**Anonymous Referee #1**

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Review of "Intercomparison of shortwave radiative transfer schemes in global aerosol modeling: results from the AeroCom Radiative Transfer Experiment" by C. A. Randles et al. submitted to Atmos. Chem. Phys. Discussion (acp-2012-613).

In this study radiative transfer schemes which are incorporated into general circulation models are inter-compared under the AeroCom initiative. This manuscript is well complied on uncertainties in the radiative transfer schemes to estimate the aerosol radiative forcing. I suggest that this manuscript will be able to be published if the authors address minor revisions indicted below.

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1. page 32634, line 24: The address of the AeroCom website should change to <http://aerocom.met.no/>
2. page 32636, line 11-12: "at specific sun elevation". Please indicate the values of the specific sun elevations.
3. page 32636, line 25: "sun elevation or solar zenith angle (SZA)". I recommend to use either terminology throughout the manuscript.
4. page 32638, line 5-7: How large is the bias of the TOA downward UV-VIS irradiance among models? This may be a useful information for the radiation budget.
5. page 32639, line 2-4: Explain how to interpolate the vertical profiles of ozone and water vapor in the models which do not have the 1-km vertical resolution.
6. page 32640, line 1: I would like to recommend to change the title of this section to "Aerosol direct radiative forcing".
7. page 32643, line 4-5: Is it a monotonically change with the sun elevation?
8. page 32645, line 1: Typo ("witha" to "with a")
9. page 32646, line 13-14: I would like to give the same question as Comment 5.
10. page 32648, line 15-19: Confirm these numbers in the latest manuscript of Stier et al. (2012).
11. page 32649, line 8-10: Confirm these numbers in the latest manuscript of Stier et al. (2012).

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