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Comment

***Interactive comment on* “Technical Note: Simple analytical relationships between Ångström coefficients of aerosol extinction, scattering, absorption, and single scattering albedo” by H. Moosmüller and R. K. Chakrabarty**

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Received and published: 31 August 2011

We particularly disagree with the comment of Anonymous Referee #2 stating “However, I don’t believe the authors’ derived relationships are particularly useful. I don’t think anyone’s spectral aerosol optical property data (especially absorption) are accurate enough to compute the type of relationships that the authors present. Therefore, I don’t [think] anyone will use these expressions to analyze their data. In response, we’d like to make the following comments: 1) In the interactive discussion of Rizzo et al., (2011), the authors have already indicated that they will use and cite our manuscript in

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the final version of their paper, indicating that at least someone is interested in our work. Please see <http://www.atmos-chem-phys-discuss.net/11/C6743/2011/acpd-11-C6743-2011.pdf> 2) In terms of analyzing existing spectral absorption and scattering data, this could readily be done. Specific areas of interest include reports of negative SAC's in conjunction with positive AACs for hematite-rich mineral dust. The question is if this would yield negative EACs that could cause blue sunsets on earth and Mars. However, we strongly feel that our manuscript should stay a "Technical Note" and the analysis of experimental data would only dilute our very focused mathematical manuscript. 3) However, we always enjoy a challenge! It is well known that in the Rayleigh regime (size parameter $x \ll 1$), for wavelength-independent refractive indices $SAC = 4$ (why is the sky blue?) and $AAC = 1$. The reverse challenge to referee #2 is "What is EAC in the Rayleigh regime?". The answer is useful, but not obvious (at least for us), and can directly be derived from our Eq. (2h) as $EAC = 1+3 SSA$. We have inserted a brief section detailing this after Eq. (2h).

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 19213, 2011.

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