Atmos. Chem. Phys. Discuss.,
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Measurement-based climatology of aerosol direct radiative effect, its sensitivities, and uncertainties from a background southeast U.S. site" *by* James P. Sherman and Allison McComiskey

Anonymous Referee #2

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In this study, the authors have analyzed 4 years of aerosol properties, estimated DRE and examined the sensitivity of DRE to key parameters. The paper is very well written with clear context of the present work in view of the published works. Methodology is clearly defined and the DRE estimates are discussed in view of the uncertainty. It is a good contribution to the growing literature on aerosol-climate interaction.

Few minor points are required to be clarified though.

1. Aerosol properties are retrieved during daytime in presence of solar radiation. How

are then DRE estimated for 24 hours? Or is it estimated for a range of SZA?

2. Sec 4.4: what does rho with subscript 'j' represent? Is it another aerosol parameter?

3. How closely do the SBDART aerosol profile and MPLNET profile match?

4. Page 22, lines 18-19: mention the range for 'moderate AOD' to have a perspective, similarly for 'low AOD'.

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