

Atmos. Meas. Tech. Discuss., referee comment RC1
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Comment on amt-2021-369

Anonymous Referee #1

Referee comment on "Impact of particle size, refractive index, and shape on the determination of the particle scattering coefficient – an optical closure study evaluating different nephelometer angular truncation and illumination corrections" by Marilena Teri et al., Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-369-RC1>, 2022

Aerosol scattering coefficient is an important optical parameter for evaluating aerosol radiative effects. The most widely used integrating nephelometry provides information on the aerosol scattering properties directly. However, their measurements are affected by angular non-idealities, and corresponding correction schemes under different conditions need comprehensive evaluations. In this study, authors have designed thoughtful experiments, focusing on coarse mode irregularly shaped aerosols, such as mineral dust, a worldwide abundant aerosol component. Authors have performed extensive closure studies to compare different correction schemes and simulations to achieve a better understanding. Appropriate recommendations are given. This is an outstanding paper about nephelometry measurement techniques, I strongly recommend this paper to be accepted directly.