

# ***Interactive comment on “Retrievals of Aerosol Optical and Microphysical Properties from Imaging Polar Nephelometer Scattering Measurements” by W. Reed Espinosa et al.***

**Anonymous Referee #2**

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In the paper laboratory and field measurements of the angular light scattering and polarization of aerosol particles are used to retrieve the aerosol microphysical properties and the complex refractive index. For the retrieval the comprehensive GRASP software package was used. This approach is novel and therefore within the scope of AMT. The paper is well structured and the results are clearly presented. I therefore recommend the publication in AMT after the following major issue has been addressed.

Section 3.2 has to be carefully revised as for me it is not convincing that any reasonable value for the imaginary part of the refractive index can be given based on the presented method. Including a measurement that is sensitive to the particle absorption is essential to retrieve the imaginary part of the refractive index, especially in case of weakly

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absorbing aerosols. Although the authors are aware of this problem - as it is indicated by two sentences in Sec. 3.2 and in the Conclusions - they give imaginary parts of the refractive index for the case studies in Table 2. This is misleading to the reader, who might take these values as approved in his own work. I recommend to remove any values of the imaginary part of the refractive index from the paper

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-356, 2016.

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