

## ***Interactive comment on “Profiling aerosol optical, microphysical and hygroscopic properties in ambient conditions by combining in-situ and remote sensing” by Alexandra Tsekeri et al.***

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Received and published: 10 October 2016

Review of Referee # 3:

Profiling aerosol optical, microphysical and hygroscopic properties in ambient conditions by combining in-situ and remote sensing Alexandra Tsekeri et al. Overall, this is an excellent manuscript where the authors have made a great job to convey all the information in an organized and clear way. All the sections and methods have been well supported and all the details have been referenced accordingly. The organization of the manuscript and the presentation of the data and results are of great quality. I consider this work is an important contribution for the atmospheric community as it provides important details on how attack the RH issue in remote sensing retrievals using the In-situ

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Remote sensing aerosol Algorithm (IRRA) and the ISORROPIA II model to obtain the effect of RH on light scattering by aerosol particles. This manuscript describes in detail the measurements, the calculations as well as assumptions considered for aerosol characterization. As it was very well expressed by the authors, this methodology offers a great number of applications in different aerosol scenarios where RH plays an important role and can even be used for the validation of actual remote sensing techniques. The authors also take account of different improvements for future work with IRRA, especially those of including polarization and non-spherical aerosol properties which will definitely help future airborne missions. In consequence, I consider this manuscript is appropriate for prompt publication in the Atmospheric Measurement Techniques journal.

Answer to Referee #3:

We thank the reviewer for his/her very encouraging comments.

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-193, 2016.

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