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Atmospheric Measurement Techniques Discussions

Interactive comment on "Determination and analysis of spectral aerosol optical properties by a multi-instrumental approach" *by* S. Segura et al.

Anonymous Referee #3

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The paper "Determination and analysis of spectral aerosol optical properties by a multi-instrumental approach" by Segura et al., describes a method for correction of absorption measurements with an Aethalometer, as well as it presents a data set as example of application of the method. The paper is adequate for the journal scope, it is well structured and I recommend publication after minor changes.

General comments

1. The first part of the paper, related to the correction method, is an exhaustive work, well describing the complexity of aerosol absorption in situ measurements. However, the second part, regarding the data collected at Granada, is not as interesting as measurement technique, and makes the paper rather long. I would either shorten or remove

sections 5.1 and 5.2. The analysis of atmospheric data, dust or pollution events, etc. is not as interesting in my view for AMT. Figures 6 to 10 are not necessary (figure 5 could be retained to show the data set and allow some discussion).

2. Is the measurement protocol at Granada station organized according to some specific requirements? Might the absence of heating of the inflow induce problems in the nepehlometer (scattering) measurements? How is high relative humidity accounted for? Might the described correction method be affected by high relative humidities?

Specific comments

Page1, Line 17: add year

P2, L3: give full description of b_abs the first time that it is written in the text. The same applies to other variable names throughout the manuscript.

P2, L4: "weekdays" should likely say "working days". Please check other possible occurrences in the text.

P2, L13: "...cooling of the underlying atmosphere" Also surface is affected.

P18: the descriptions of HYSPLIT, NAAPS and the Granada lidar system should be drastically reduced (if not removed, see general comment 1). Some paper citation should be enough.

P19, L8: even though this reviewer considers that section 5 is unnecessary, should this material be used elsewhere, consider adding your AERONET data together with the lidar, to help discriminate Saharan dust events.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 1871, 2014.