

Interactive comment on “Aerosol Optical Depth comparison between GAW-PFR and AERONET-Cimel radiometers from long term (2005–2015) 1-minute synchronous measurements” by Emilio Cuevas et al.

Anonymous Referee #1

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This is a very thorough and overall quite clearly written manuscript of great use to anyone relying on PFR or Aeronet derived AODs. It establishes how well the master instruments used in both networks compare over the long term and where and why minute differences arise. It does not address how well these calibrations are transferred across the networks and what the resulting uncertainties are for various stations. However, such questions have been addressed by many others as evidenced by citations in this manuscript. This reviewer only has a very small number of relatively minor comments

C1

Page 1, Line 4. Suggest to say “wavelength near” instead of “nearby wavelength”

Page 2, Line 15. Suggest mentioning some other sunphotometer networks, PHOTON, Japanese network etc.

Page 2, Line 30. Suggest inserting “NASA” before “Goddard”

Page 3, Line 6. Numerous is an understatement.

Page 4, Line 5. The use of “absolute” is misleading here. A Langley calibration alone is never absolute (i.e. the calibration value is just a signal in an engineering unit not W/m^2). The beauty is that an absolute calibration is not needed to derive AOD.

Page 5, Line 5. Suggest replacing “constant” with “signal” here and everywhere else in the manuscript. Or maybe just explain once that in sunphotometry the calibration “constant” is the signal the instrument would read outside the atmosphere (extraterrestrial) at a normalized earth-sun distance?

Page 6, Line 24. Font issue.

Page 6, Line 6. Incorrect grammar: “were” not “was”.

Page 14: Line 14. This is misleading as the error in AOD due to error in the calibration “constant” is independent of AOD.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-438, 2018.

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