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Atmospheric Measurement Techniques Discussions

Interactive comment on "High temporal resolution estimates of columnar aerosol microphysical parameters from spectrum of aerosol optical depth by Linear Estimation: application to long-term AERONET and Star-photometry measurements" *by* D. Pérez-Ramírez et al.

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All you have is AOD as function of wavelength. And you seem to claim that you can retrieve some parameters of particle size distribution PSD as well as real and imaginary parts of index of refraction m=n+ik by solving the integral equation which kernel is not known to you. Isn't it too much to ask? It does not seem mathematically sound nor sane. Did you perform studies concerning the uniqueness of the procedure? Can it be

that two different PSD's and different values of m may produce the same AOD? I think this is a rhetorical question. Obviously the problem as posed in the paper has multiple solutions. Could you please comment on the issue.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 2331, 2015.