

Interactive comment on “A new zenith looking narrow-band radiometer based system (ZEN) for dust Aerosol Optical Depth monitoring” by A. Fernando Almansa et al.

Anonymous Referee #1

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The author presented a new zenith looking narrow-band radiometer based system (ZEN) to monitor the dust aerosol optical depth with a new radiometer (ZEN-R41) and a methodology for AOD retrieval (ZEN-LUT). A comparison experiment was carried out with the AERONET data at three sites characterized by a regular presence of desert mineral dust aerosols: Izana and Santa Cruz in the Canary Islands, and Tamanrasset in Algeria and the results were very well. This is a very nice work because it offers a new method to measure AOD. I suggest this paper published in AMT just with some questions as following:

Q1. Page 1-2. In the introduction of aerosol properties, It would be better to cite some new references such as related studies e.g. SKYNET, CARSNET, WMO-PFR, etc. Q2.

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Page 3 line 34. "...with AOD values < 0.15." Which wavelength of AOD here? Q3. Page 9 line 28. "In case of AOD ~ 0.5 ...". which wavelength of AOD you used in this study? Q4. Page 11 line 15. "...it can be said that AOD is mostly underestimated by the ZEN-LUT method." What's the probable reason? Q5. Figure 3. The top major ticks of Fig (b) are different from other pictures, please revise it.

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