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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Characterization of long-range transported Saharan dust at the Caribbean by dual-wavelength depolarization Raman lidar measurements" *by* S. Groß et al.

Anonymous Referee #2

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This paper presents aerosol optical properties derived from high quality lidar observations during SALTRACE, the Saharan Aerosol Long-range Transport and Aerosol-Cloud interaction Experiment. Detailed presentation of several Saharan dust intrusions cases including the particle linear depolarization ratio at both wavelengths is well done. I found very useful the analysis of the active dust sources relevant for the four investigated case studies and I appreciate as an important issue the presentation of the profiles and RCS in all four cases. I think the paper is a substantial contribution to scientific progress within the scope of Atmospheric Chemistry and Physics. The description of experiments and calculations is sufficiently complete and precise to allow

their reproduction by other scientists. The results are discussed in an appropriate and balanced way. The authors give proper credit to related work and clearly indicate their own contribution. I am suggesting only few minor changes as follows: -Figure 1- Please provide a technical drawing instead of the picture of the instrument. -In the abstract- please rephrase "long-range transported Saharan dust at the end of its way across the Atlantic"- this one sounds like you have a proof the dust get deposited in Barbados or somehow vanished after crossing the Atlantic -Please rephrase also this statement "Our study includes the general aerosol situation during our measurement period as well"- I am not sure what you meant by "general aerosol situation".

Interactive comment on Atmos. Chem. Phys. Discuss., 15, 19325, 2015.