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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Measurements of Saharan dust aerosols over the Eastern Mediterranean using elastic backscatter-Raman lidar, spectrophotometric and satellite observations in the frame of the EARLINET project" *by* A. Papayannis et al.

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Final Author Comments for Referee #1

According to Referee's suggestions/comments we performed the following changes on the manuscript:

Abstract and pages 16, 21: the lidar ratio (LR) values are now given as integers, according to the similar values published in the literature.

Final Response to Referee's #1 comments:

1) Figs 1 and 2 show the aerosol vertical profiles of the backscatter coefficient at 532 nm only, since the UV Raman lidar channel was not available during the Saharan dust event discussed in that paper (August 2001), as explained in the text. 2) The AOT data derived by the Brewer spectrophotometer in Thessaloniki are shown only in the UV region, since that instrument is working only in the UV region, as explained in the text. Therefore, no AOT data are available in the visible spectral region.

Final Author Comments for Referee #2

According to Referee's suggestions/comments we performed the following changes on the manuscript:

1) Pages 4 and 5: more papers are now cited concerning satellite and lidar dust observations, 2) Page 6: a paragraph on the AERONET data is now included, 3) Page 10: a paragraph on the computation of the dust concentration by the DREAM model has been added, 4) Page 13: a discussion on the Ångström exponent-particle sizes and on similar work published by other lidar stations has been added, 5) Misspelled words have been corrected (e.g. page 19), 6) Pages 24-34: Recent work published by other lidar groups in 2004 and 2005 has been added.

Final Response to Referee's #2 comments:

We decided not to give the 2-dimensional time evolution of the various lidar profiles (aerosol backscatter profiles only available) during the dust event of August 2001, due to the limited (low) number of lidar profiles available in the time frame of measurements.

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 2075, 2005.