

Interactive comment on “Atmospheric radiative effects of an in-situ measured Saharan dust plume and the role of large particles” by S. Otto et al.

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We thank the referee for his comments. We discussed all of them and tried to consider them in the revised version of the paper for submission to ACP.

a) The aim of the paper is to discuss the radiative effects of Saharan mineral dust. Thus, we did not inform the reader about recent studies on measuring optical properties, e.g. using lidars, in the introduction. On the other hand, lidar data from ACE-2 were not available, thus, we did not discuss this issue. However, the importance of such lidar in situ measurements is now emphasised as an outlook at the end of the conclusions of the latest revised version of the paper. Moreover, the optical properties were discussed in the results of the paper comparing them to data measured during ACE-2.

b) A map of the flight track was included in the paper as a new figure (now figure 1). It helps the reader to have a better overview of the measurements.

c) The sentence "the current knowledge about ...", as commented by the referee, was removed.

e) It should be clear now how many streams (4) we used for the DISORT simulations, see the end of the section 3.1.

f) On July 8, 1997 AERONET estimated the imaginary part of the dust refractive index at the Izana station to be constant with 0.0005. The literature data shows a significant wavelength dependence. Thus, we did not use the AERONET value in our simulations and preferred to define a mean of the literature data. We revised the paper text in section 3.2 4).

g) The description of the scenarios were revised, too. We hope that it is more clear now.

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