

Interactive comment on “Physical and optical properties of atmospheric aerosol by in-situ and radiometric measurements” by M. Calvello et al.

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On behalf of all co-authors, I wish to thank Referee # 2 for all the useful suggestions and comments. The introduction will be revised according to the Referee remarks also referring to the recent publications on LIDAR measurements in the Mediterranean area, as indicated by the Referee. For what concerns Figure 2, the authors inserted the figure to show different cases of Saharan dust intrusions characterised by different intensity and duration thus trying to explain the different size distributions present in Figure 1 as commented in section 3.1. In particular, referring to Fig. 1, size distributions for 18/19 June, 7/8 July and 8/9 September show an intense coarse mode. A coarse mode, always prevailing on the first one, but less intense characterizes size distributions for 9/10 July and 14/15 July instead. Correspondingly, in Figure 2a, for the representative

day of 18/19 June, back-trajectories are shown to directly come from Sahara almost all 24h DLPI measurement long. DREAM map for the same day confirms the presence of Saharan dust particles over the study area. In figure 2b, the Saharan advection episode is, one could say, marginal, with back-trajectories not directly coming from the desert, but loading up dust particles when travelling over the Sea. DREAM map for the same day shows in fact dust loading over the Mediterranean Sea, where air masses travel through, before arriving at the measurement site. The same kind of analysis has been carried out in figures 3 and 4 but for anthropogenic loading episodes.

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