

Interactive comment on “Aerosol-ozone correlations during dust transport episodes” by P. Bonasoni et al.

P. Bonasoni et al.

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Answer to Referee #2

General Comments:

We improved the paper following the remarques and the suggestions of the Referee. In particular: a)concerning the ability of back-trajectories to "capture" air masses which mobilized mineral dust on Sahara desert; b)concerning the significance of ozone differences recorded at MTC during and outside Saharan dust events. For this last question, please refer to answer number 3 to the major issue of Referee#1.

Specific comments:

1) We analyzed air mass origin for dust events using 3-D back-trajectories. In the new table 1, 2nd column, the mean travel time of the air masses from north African

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coastline to MTC is showed. In order to determine if air masses really originated from north Africa boundary layer, we calculated during Saharan dust events, the vertical density field for the numbers of back-trajectories over north Africa (area: 20°–35°N; 20°W–40°E). We find out that the greater part of trajectories originated at altitude below 1500 m asl. This fact has been highlighted in the new text version (Par. 3.1.1) by the sentences: "The highest coarse aerosol number concentrations measured at MTC are usually associated with low latitude air masses originating in north Africa lower troposphere, particularly in Algeria (Fig. 6). These trajectories were originated at altitudes below 1500 m, where soil dust is mobilized during dust storms."

2) See answer 3 to Referee#1 - major issues.

3) See answer 3 to Referee#1 - major issues.

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