



## **Assimilation of satellite lidar products in the CTM MOCAGE during the ChArMEx campaign**

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The atmospheric aerosols are a chemically and physically complex mixture of solid and liquid particles from natural and anthropogenic sources. They are of great importance for many scientific fields such as atmospheric chemistry, and climate. The impact of aerosols on the mediterranean basin is not yet well quantified especially during the saharan dust outbreaks from Northern Africa into Europe.

In this contribution we assimilate different lidar products from satellite sensors to characterize the spatial distribution of dust aerosols during the ChArMEx campaign. The used approach during lidar products assimilation consists in choosing the total aerosol concentrations as the control variable. First, we will present the methodology and the advantages of such an approach. Second, we will evaluate the analyses of lidar assimilation by comparison to the independent aerosol measurements performed during the ChArMEx campaign. ChArMEx is a French initiative which aimed to characterize the atmospheric pollution in the western-Mediterranean basin using airborne measurements from balloons and aircrafts as well as ground-based measurements.