Interactive comment on "The climatology of dust aerosol over the arabian peninsula" *by* A. Shalaby et al.

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Received and published: 3 February 2015

In addition to the comments made by Andrew Sayer concerning the description of MODIS Deep Blue, I would like to add a few additional comments:

About MODIS: - MODIS pixel resolution varies with wavelength, and the 10 km resolution is for pixel aggregates and with a viewing angle at nadir. From your description, it seems that the resolution is 10 km, but the data downloaded from GIOVANNI are at 1 degree resolution. - you will need to check that MODIS Deep Blue is Collection 5, as it may be 5.1. They are not the same, with some improvements in the retrieval algorithm for the latter.

About OMI: -the "high" resolution is at nadir only. -there are 2 retrieval algorithms:

OMAERO (Torres et al., 2002) and OMAERUV (Torres et al., 2007). Both are compared in Livingstone et a. (2009). Which one do you use? - OMI retrieval is in nUV, how do you get AOD at 500 nm?

About AERONET: - Are you using monthly, daily, or 10-minutes observations? This choice will influence your comparisons.

About dust sources: - dust sources geomorphology and anthropogenic activities have been studied in details by Prospero et al. (2002) and Ginoux et al. (2012a), respectively. Seasonal variation of dust optical depth compare to all aerosols optical depth has been studied at Solar Village (Ginoux et al., 2012a) and Kuwait (Ginoux et al., 2012b). You will notice that DOD does not contribute to AOD entirely. This was discussed by Eck et al. (

I hope this will help.

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Interactive comment on Atmos. Chem. Phys. Discuss., 15, 1523, 2015.

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