

Interactive comment on “Consistency of dimensional distributions and refractive indices of desert dust measured over Lampedusa with IASI radiances” by G. Liuzzi et al.

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I have found this manuscript very interesting and useful for the community. Nevertheless, as the Referee#1 mentioned, in the present manuscript there are several missing references that would have helped to better introduce the work done here and its importance.

One obvious case, very evident to me because it deals with my own research, is in the first sentence: "The discussion about the possibility to detect and characterize atmospheric aerosols in the thermal infrared spectral range is relatively recent (Hollweg et al. , 2006; Clarisse et al. , 2013) and very active...", where I suggest to add the following reference:

Sellitto, P. and Legras, B.: Sensitivity of thermal infrared nadir instruments to the chemical and microphysical properties of UTLS secondary sulfate aerosols, *Atmos. Meas. Tech.*, 9, 115-132, doi:10.5194/amt-9-115-2016, 2016

which, in fact, circumscribes and specialises the cited work of Clarisse et al., 2013 on the specific case of sulfate aerosols. The paper demonstrates that TIR observations contain some information to identify specific chemical compositions (and microphysical properties) of atmospheric aerosols, by studying in details their spectral signatures. This is peculiar of the TIR spectral region.

This is just one case but I strongly suggest to thoroughly check the manuscript to solve the issue of missing references. This would add value to the very interesting work done by the authors.

My best regards.

Interactive comment on *Atmos. Meas. Tech. Discuss.*, doi:10.5194/amt-2016-256, 2016.

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