

Interactive comment on “AERONET-based microphysical and optical properties of smoke-dominated aerosol near source regions and transported over oceans, and implications for satellite retrievals of aerosol optical depth” by A. M. Sayer et al.

Anonymous Referee #3

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The authors analyze in their paper AERONET data from stations influenced from smoke aerosols. Their main objective is to provide typical microphysical and optical properties of smoke aerosols, that correspond either to fresh or aged (transported over the oceans) smoke, in order to provide a set of microphysical and optical properties for use in satellite AOD retrieval algorithms. The paper is well written and structured, the quality of the data used is very well documented and in general the paper should

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be considered for publication in ACP. There are few issues that should be considered before final acceptance listed below:

Page 25030: Line 1 to 10. The authors characterize certain cases as “transported smoke” cases but the methodology applied for this characterization is described very briefly. What satellite products do the authors use? Is HYSPLIT combined with some fire product? I believe the authors should elaborate here more, since this characterization should be well documented so that the resulting properties would be indeed representative for such cases.

Page 25031: Lines 13-28: It is not clear from this paragraph how or if the authors exclude the impact of other aerosol types (e.g. urban) in characterizing the transported smoke, or they suggest also a third type “transported smoke under urban influence” to be applied near coastal densely populated areas?

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 25013, 2013.

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