

Jacob Z. Tindan
Department of Meteorology
Pennsylvania State University
530 Walker Building
University Park
State College, PA, USA.

The Editor
Atmospheric Chemistry and Physics
Copernicus Publications.

March 31, 2023.

Dear Editor,

We have submitted a revised paper entitled “Understanding day-night differences in dust aerosols over the dust belt of North Africa, the Middle East, and Asia” by J. Z. Tindan, Q. Jin, and B. Pu for consideration for publication in *Atmospheric Chemistry and Physics*. The helpful and constructive comments from the two anonymous reviewers are deeply appreciated.

Following the comments from Report #1, we have checked the spelling of AERONET across the entire document and made the necessary corrections. We have also made some minor edits to both text and figure captions and labels to improve clarity of the paper.

Thank you again for your time and consideration! We are looking forward to hearing from you.

Sincerely,

Jacob Z. Tindan, Qinjian Jin, and Bing Pu

Responses to Reviewers' Comments

We would like to express our sincere gratitude and appreciations once again to the reviewers for their valuable and constructive suggestions. The comments and concerns of reviewer #2 in report #1 is addressed below. Line numbers refer to the lines in the manuscript with tracked changes.

Comments in report #1:

please check the spelling of AERONET all along the paper

Thank you very much for catching the errors. We have corrected these spelling errors across the entire document.

In section 3.1, please avoid using bias of -100%, for example. Either mention a negative bias of 100% or an underestimation by 100% (without sign, being comprised in the "negative" or "under" words)

We appreciate this input. Section 3.1 lines 378-380 have been corrected as “and a large negative bias of more than 100% (see Table 2 and Fig. 2a). Similar large negative biases are also observed around other coastal sites over North Africa (e.g., Iza, Lag, and Tei) possibly due to the mixing of sea salt with dust aerosols and the complicated land surface conditions in the area leading to difficulties in DOD retrieval (Capelle et al., 2014, 2018). Similarly, nighttime DOD is also underestimated at Tei and Iza by more than 200%”