

## **ANSWER TO EDITOR**

*Dear corresponding author, dear authors,*

*As editor of this manuscript, I agree with all three reviewers, that the manuscript is valuable to be published in this journal.*

*It is of good quality, as well scientifically, and well written. The topic is of course inovative and of high valuable interest.*

*Nevertheless I also agree with the reviewers that some corrections have to be done. I summarize all the main recommandations that I found in reviewer comment 1 (RC1), reviewer comment 2 (RC2), reviewer comment 3 (RC3), and make following recommandations in a synthesis:*

Dear Editor,

We would like to sincerely thank you for your positive evaluation of our manuscript and for your support throughout the review process. We are grateful to all three reviewers for their constructive and detailed comments, which have helped us improve the clarity, structure, and scientific quality of the paper.

Following your synthesis and recommendations, we have carefully revised the manuscript as follows:

*The introduction is too long (RC1, RC2, RC3)*

In response to RC1, RC2, and RC3, the Introduction has been significantly shortened. The historical instrumental development has been moved to Section 2, where it is more appropriately discussed.

*You should Shorten Section 2 with less details about aeronet procedure (RC2).*

In line with RC2's suggestion, we have reduced the level of detail concerning standard AERONET procedures, keeping only the essential points needed to understand the processing of our dataset. We now refer readers to Giles et al. (2019) for complete methodological details. In addition, we have reorganized the content into distinct subsections to improve readability and guide the reader more easily through the various processing steps.

*Please restructure to shorten and avoid redundancy:*

*- Restructuration introduction and section 2 (RC3, RC2) -> Shorten Intro and part of them to section 2*

*- Restructuration Section 3 (data analysis) & 4 (results) and Section 5 (conclusions) (RC2, RC3)*

We have restructured Section 3 to include new subsections where appropriate (e.g., the intercomparison between instruments and the validation against the Saint-Denis site, as suggested by RC1). We have

kept Section 5 (Discussion) but significantly reduced its opening paragraphs to eliminate redundancy with sections 3 and 4, as suggested by RC2 and RC3.

*I suggest as the reviewers did these significant changes/additions:*

*-> Also mention the Prede developments in the introduction (RC3)*

Following RC3's suggestion, we now mention the development of ship-adapted Prede POM instruments, including a reference to Kobayashi et al. (2014), in the Introduction.

*-> Ångström Exponent should be properly defined (RC1, RC2, RC3) -> On which wavelengths/channels is it computed: only two wavelengths (limit wavelengths of the range of computation)? All the channels of the wavelength range?*

As requested by all three reviewers, we now explicitly define the Ångström Exponent as computed by least-squares linear regression in log-log space over the 440–870 nm range. This is stated in Section 2.2.1 and mentioned also in the Introduction and in the caption of Tables 1 and 2. Throughout the manuscript, we refer to it as  $\alpha$  once defined, for clarity and to avoid repetition.

*I have also some own recommendations:*

*-> For me it is always very important to add a table of accronyms and maybe of parameters.*

We have included a new table listing all acronyms and key parameters as you recommended.

*-> At the end: Please replace "TEXT" with information by:*

*- Author contributions: "TEXT"*

*- Disclaimer: "TEXT"*

These sections have now been completed at the end of the manuscript.

*-> Consider all specific comments, corrections, typos and questions of RC1, RC2, RC3... And of course also an foremost the general comments of them that I have not mentionned above.*

Figures and color accessibility: Following the comment by RC1 and the journal's graphics editor, we revised the color palettes of Figures 7 and 8 to ensure accessibility for color-blind readers, using Coblis to verify the improvements.

All specific corrections and clarifications addressed: We have addressed all specific line-by-line comments, typos, and requests for clarification from RC1, RC2, and RC3.

*Have a lot of success in the (short) corrections of the manuscript, we are looking forward to validating the next version of it for final publication.*

We hope that the revised version of the manuscript now meets the standards for publication in Atmospheric Measurement Techniques. Please do not hesitate to contact us should any further clarification or adjustment be needed.

Thank you once again for your support and guidance throughout this process.

Warm regards,

Benjamin Torres

on behalf of all co-authors