Below, we address the comments by the editor. The editor comments are typed in bold font and our replies to them in regular font.

Referee # 1:
Last comment: Authors may want to add ORCALES (https://espo.nasa.gov/ORACLES/content/ORACLES) in the list of field campaigns. The HSRL-2 and 4STAR made high-res. measurements of AOD over the Southeastern Atlantic Ocean in the Aug-Sep-Oct of 2016, 2017, & 2018. Also, how about comparing the post-process bias corrected Sentinel-3 product against the 1-km AOD retrieval dataset from MAIAC? Although, the exercise won't constitute a validation of either product, but still can be useful to evaluate the relative difference, especially the spatially varying AOD features.

We have added a mention about the ORACLES campaign in the list of field campaigns. Thank you also for mentioning the HSRL-2 and 4STAR high-res. AOD measurement. As they are over ocean and we have only used data over land we did not add them to this manuscript. We also now mention the Synergy - MAIAC comparison as an interesting and potentially useful comparison to reveal information about spatially varying AOD features. However, such comparison with MAIAC and high-resolution campaign data such as DRAGON is left for future studies.

Referee # 2:
I agree with the anonymous referee # 2 that the post-process corrected product is marginally better (not significant), in terms of comparison statistics (R2, RMSE, Bias), than the full ML output product. However, at the same time, I also agree with your results that relatively (%) bias corrected product provides best statistical comparison. Regarding the results tabulated in Table 1 and Table 2, referee # 2 appears to have made a wrong claim as the bias values are lowest in the post-correction AOD dataset. However, the improvement is marginal over the fully learned AOD product.

The revised paper, especially abstract and conclusion, should clearly accept and reflect this finding. The benefit and superiority of the proposed post-correction method is that the full processing of the satellite aerosol products is not required, which is a time-consuming effort often carried out by the algorithm developers/processors, and not by the individual researchers. Since authors have made the post-correction package available for the users free of cost, it will facilitate researchers applying the proposed correction without requesting full processing to the algorithm developers.

We have revised the abstract and conclusions according to your comments. Please see the difference pdf showing the changes made to abstract, introduction, and conclusions.