

## Responses

During the review on the revised manuscript, we got the comments from editor that:

The paper needs a technical revision to add the following concerns raised by the second reviewer before it can be accepted.

"Authors have properly addressed most of the reviewers' comments. I have only one question be clarified by the authors. In the review response (to reviewer #2), authors conducted simulation based correlation analysis for DSCDs between UV and visible bands under different aerosol conditions. It is not clear how the model simulations are sampled for the calculation of slope,  $R^2$ , and intercept in Table R1 and Figure R2. For each aerosol condition, Is the correlation analyzed for simulated DSCDs of different times of the day (i.e., different solar view angles) or else?"

R: We really appreciated the reviewer's helpful comments to make the manuscript better improvements. So we have made a technical revision to clarify the simulation study and the linear regression analysis more clearly in the manuscript, and in the supplement. The complementary sentences are marked in blue color in the manuscript.