

# ***Interactive comment on “Assessment of Regional Aerosol Radiative Effects under SWAAMI Campaign – Part 1: Quality-enhanced Estimation of Columnar Aerosol Extinction and Absorption Over the Indian Subcontinent” by Harshavardhana Sunil Pathak et al.***

## **Anonymous Referee #1**

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For such comparative estimation a higher resolution data from satellites such as level 2 data available almost daily be ideal, while level 3 data at a lower resolution on a monthly basis has been reported to be systematically underestimated.

Comparison between AODs and AAODs are expressed in terms of  $R$ ,  $R^2$  has used to explain such variation.  $R$  values lower.

dAOD and dAAOD values are large, sometimes as equal to AOD or AAOD.

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Discussion paper



The uncertainties are reported to be lower than satellite product, how and why this happens is not clear.

Using BC mass and dust to construct SSA can result in uncertainty, for example, the aethalometer measurements are reported to have uncertainties in BC mass measured at different environmental conditions using the same attenuation coefficients valid for urban regions.

As for as the methodology is concerned several approaches are mentioned with variations in planetary boundary layer height etc., sensitivity of these assumptions not explained.

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