Atmos. Chem. Phys. Discuss.,
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Sources and atmospheric dynamics of organic aerosol in New Delhi, India: Insights from receptor modeling" *by* Sahil Bhandari et al.

Anonymous Referee #1

Received and published: 26 September 2019

The authors present a very valuable new dataset focusing on the organic fraction of submicron aerosol composition in Delhi, India from January 2017 to March 2018. Importantly, the dataset covers two winter seasons, which are the periods of most intense pollution in Delhi. To my knowledge this dataset is the first of its kind and provides significant insight into the nature and possible sources of PM2.5 in Delhi. I believe it should be published after a few minor points are addressed

- In some places including the abstract the authors have referred to this study as a "source apportionment." While it is clear that this data and analysis have provided very important insight into possible sources/formation pathways for OA in Delhi, "source

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Discussion paper

apportionment" is a stronger term. I think the authors would agree that they have not identified the fraction of OA in Delhi originating from various specific anthropogenic and biogenic sources.

- A lot of real estate in the paper is devoted to figures which illustrate the PMF analysis but do not convey take-home messages for the reader. Consider moving those to SI.

- The results clearly show elevated organic aerosol concentrations in winter. However, overall PM concentrations are also higher in winter. A figure (or figure panel) showing the seasonal variation in the OA fraction of PM mass would be very helpful

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