

Interactive comment on “Aerosol optical characteristics and their vertical distributions under enhanced haze pollution events: effect of the regional transport of different aerosol types over eastern China” by Tianze Sun et al.

Anonymous Referee #2

Received and published: 31 December 2017

The authors present a notable effort in investigating aerosol optical properties associated with typical haze events in the Yangtze River Delta, with distinct atmospheric environment from northern China garnered lots of attention. Compared with the few previous studies, this work gives a comprehensive insight in this wet and rainy region, and revealed the special role of regional transport, which can be an important reference to the community. Besides, some minor revisions are needed before publication.

1. The specific scope of the Yangtze River Delta in Figure 1 left needs to be confirmed, and better give region of the Yangtze River Delta in the right.

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2. For the daily MODIS aerosol data, the Level 2 MODIS AOD at 10 km resolution can better show potential sources around the YRD.

3. It's difficult to quantify aerosol-PBL interactions directly from observations. To be rigorous, exact descriptions are suggested based on the current results and corresponding references such as:

Tang et al., Mixing layer height and its implications for air pollution over Beijing, China, *Atmos. Chem. Phys.*, 16, 2459-2475, doi:10.5194/acp-16-2459-2016, 2016.

Interactive comment on *Atmos. Chem. Phys. Discuss.*, <https://doi.org/10.5194/acp-2017-805>, 2017.

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