Atmos. Chem. Phys. Discuss.,
https://doi.org/10.5194/acp-2018-388-RC3, 2018

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Diurnal variation of aerosol optical depth and $PM_{2.5}$ in South Korea: a synthesis from AERONET, satellite (GOCI), KORUS-AQ observation, and WRF-Chem model" *by* Elizabeth Lennartson et al.

Anonymous Referee #1

Received and published: 13 July 2018

This study focuses on the KORUS-AQ field campaign over South Korea, and also did a lot of statistical analysis of satellite data, meso-scale numerical modeling, AERONET and other ground based sensors. It adds valuable information for air quality study over East Asia, especially the climatology of AOD and PM2.5 diurnal variation. Overall it is easy for readers to follow. I agree this paper is accepted. But there also needs some revising of writing.

Specific comments:

1. Please checks through all the abbreviations, and introduces the full name at the first appearance. For this manner, the Abstract should be treated independent from the main body.

2. Is there any diurnal variation studies for angstrom exponent in the literature?

3. Hourly timing are presented in different formats, so please be consistent with the format. It is better to use 14:00 or 18:00 regardless KST or UTC.

4. Page 7-8, three sections of '3.2', please modifies them.

5. Page 14, Line 3, please specify the 'short timeframe' means within 2 months or how long?

6. Figure 9a, please use solid line to represent one variable (AOD) and dashed line to represent the other variable (PM2.5).

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