

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.

Reply. Thank you for your review.

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.

Reply. Thanks. In the abstract, we've expanded acronyms for AERONET, GOCI, KORUS-AQ, and WRF-Chem, and PM2.5. In the main text, we also expanded GMS, GOES, GEOS-Chem, WRF-Chem, PM2.5, and AERONET.

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

Reply. Yes. but only few. The following is added into the text. "While AOD diurnal variation has been analysed by several past studies, few studies examined the diurnal variation of Angstrom exponent. Wang et al. (2014) showed that diurnal variation of Angstrom exponent in average has a diurnal variation of 30% (with minima at mid-afternoon) in the dust source region of Gobi desert. Globally, Kaufman et al. (2000) showed the ratio of Angstrom exponent at Terra satellite overpass time with respect to the daily mean is close 1 in 60% of days for the AERONET sites in 1993-1999, and they clearly showed that the diurnal variation of Angstrom exponent is much larger than the counterpart of AOD. Recently, Song et al. (2018) also showed that the diurnal variation of Angstrom exponent is ~15% in southwest China with minima at mid-afternoon, and less than 10% in northern China plains."

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.

Reply. Good point. In several places, we have changed 9 pm to 21:00 KST, for example.

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

Reply. Good catch. Done.

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

Reply. Text was added to clarify that we are referring to the six-week KORUS-AQ Field Campaign.

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

Reply. Done.