

Atmos. Chem. Phys. Discuss., referee comment RC2  
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## Comment on acp-2022-304

Anonymous Referee #2

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Referee comment on "Contributions of meteorology and anthropogenic emissions to the trends in winter PM<sub>2.5</sub> in eastern China 2013–2018" by Yanxing Wu et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2022-304-RC2>, 2022

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This is a very interesting paper analyzing the causes of PM<sub>2.5</sub> trends observed in eastern China. The research topic is highly important from air pollution control point of view and, although this topic has been studied quite intensively during the recent years, this paper manages to provide new insight into it. The paper is clearly organized and relatively well written. I could not find any scientific errors, even though I do feel being an expert on trend analysis. I have a few minor issues to be considered before accepting this paper for publication:

Please explain how ASI is defined. Based on Figure 1 it seems to be dimensionless variable but this has not been explained anywhere. This is particularly important because related to Arctic sea ice, most often the concept "Arctic sea ice area" is used in a scientific literature.

Similarly, please explain explicitly what is meant by "emissions" appearing in Figures 1 to 5. Are they simply primary PM emissions taken from the emission inventory, or do they also include precursors that form secondary aerosol matter?

Describing what was done or observed, is usually written in a past tense. Please check out this throughout section 2. Past tense is also preferred in the following places: ... were crucial (line 35), ... was the most (line 37), ... carried out (lines 111 and 128).

Section 3.2. Please reformulate the title of this section (e.g. "Comparing the MLR results..."). Starting the section by referring to "the second question" is not a good practice, as the reader need to find out from the earlier text what is this question. I would recommend repeating this section e.g. by writing "The answer to the question whether Table 1 or 2 is correct is that neither of them is correct, for the following ...."

