

***Interactive comment on “Evaluating the Recent “2+26” Regional Strategy for Air Quality Improvement During Two Orange Air Pollution Alerts in Beijing: variations of PM<sub>2.5</sub> concentrations, source apportionment, and the relative contribution of local emission and regional transport” by Ziyue Chen et al.***

**Anonymous Referee #2**

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This manuscript analyzed four pollution episodes and evaluated the effects of “2+26” regional integrative strategy on air quality improvement in Beijing. Observation and model simulation were used to investigate how the emission reduction influence the pollution episodes. In general, this is an interesting topic and helpful for the Chinese policy maker to improve the pollution management. However, the analysis in

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this manuscript was not convincing enough, and the model results were not used well. I recommend a major revision before can be published on ACP.

General comments:

1. It is dangerous to evaluate the pollution control strategy by using only four pollution episodes. Too many parameters, especially the meteorological parameters, can influence the pollution level in one case, and would result in large uncertainties in the evaluation. A comparison based a long-period observation is needed. The current comparison between every two episodes, at least, not statistical significant.
2. In Fig. 2, it seemed to me the simulation result was too good. And the model can only underestimate PM2.5, but not overestimate, why? The author need to provide the comparison results of the chemical composition, but not only the mass concentration of PM2.5.

Specific comments:

1. Remove “recent” in the title
2. I would not recommend use ‘Orange air pollution alert’ in the title.
3. In Fig.3, this kind of direct comparison between two cases at different time did not make much sense.
4. In Fig. 4b, why there were such a high concentration of nitrite and chloride?
5. In Fig. 5, compared to the previous pollution episodes, the contribution of coal combustion in March 2018 episode decreased a lot, but the November 2017 case did not, why?