

# ***Interactive comment on “Volatile organic compounds at a rural site in Beijing: Influence of temporary emission control and wintertime heating” by W. Yang et al.***

## **Anonymous Referee #1**

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Yang et al. present VOC observational results at a rural site in the Beijing metropolitan area before, during, and after a strict emission control implementation for the APEC summit event. They mainly discussed on changes in the VOC composition during three different periods. Then, they move ahead to discuss the potential sources from the PFM analysis and the impacts of VOCs in the context of ozone and aerosol formation rates. Overall the manuscript is very clearly written, and the goals seem to be well achieved.

However, I have a couple of concerns regarding whether this manuscript is well fit in this particular journal. Although the significance in understanding of Chinese pol-

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lution problems cannot be overstated considering the large population in China, this manuscript is too narrowly focused on Chinese local air pollution problems without discussion on the bigger context such as regional or global impacts. Moreover, the scientifically relevant analyses such as ozone forming potential and secondary aerosol forming potential are just adapted from previous publications without detailed discussion whether the method is relevant to this particular photochemical environment. I believe that ACP aims more detailed scientific discussion relevant to the broader atmospheric research community, but this manuscript too narrowly discusses the scientific implications of the dataset. I recommend expanding discussion at least to compare VOC speciation from other locations in the region and other metropolitan areas in the world. In addition, I would recommend more thorough descriptions on ozone formation potential and SOA formation potential particularly in the context of whether the metrics are relevant in this photochemical environment.

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