

## ***Interactive comment on “Insights into aerosol chemistry during the 2015 China victory day parade: results from simultaneous measurements at ground level and 260 m in Beijing” by Jian Zhao et al.***

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This study investigates the chemical composition and potential formation pathways of aerosols at ground level and 260 m during and after the control period in Beijing. The authors provide detailed analysis for the chemical composition and evolution data. The contribution and the effect of local control and transportation are emphasized in this study, providing precious assessment for the regional emission control impact on haze treatment. This paper should be considered for the publication in ACP if the following issues are further stated.

C1

Major issues,

In section 3.2 and section 3.3, the authors mainly talk about the difference between mass concentration of different species during and after the control period. The authors then stated the importance of emission control on air quality. However, as the main pollution level driver, the meteorological difference between two periods are merely talked about in these two part. Then, in Page 12, Line 28-29, the author mentioned that "the absence of the stagnant meteorological conditions during the control period", the difference of the meteorological background during two periods could bias or exaggerate the effect of emission control. However, the author failed to clarify the effect of emission control when excluding the meteorological differences.

Page 9, Line 15-18, I personally disagree with the authors' statement about COA control. According to the data provided, COA was  $2.89 \mu\text{g m}^{-3}$  during control period averagely, which is 32% lower than that during after control period. This is actually a lot decrease. It is true that COA emission has not been overall controlled and managed, the difference of concentration between these two periods should imply the difference of accumulation process of pollutants and/or meteorological conditions.

Page 9, Line 30, "regional emission controls slowed down the aging processes of OA by decreasing its precursors of volatile organic compounds"? Is there any lab/field study support for this theory?

Minor issues,

Page 2, Line 3, Huang's nature and Guo's PNAS are analysis of a relatively short scale of time of air quality compared to the authors statement "air pollution during the past decade". It is obviously inappropriate to only cite these two articles for this statement.

Page 6, Line 20-25, Why the chloride concentration is directly divided by the density of ammonium chloride?

Page 14, Line 23, misspell "photochemical"

C2

Page 21, Figure 2, what do different colours of pie charts mean?

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C3