Interactive comment on “Surface ozone trend details and interpretations in Beijing, 2001–2006” by G. Tang et al.

Anonymous Referee #1

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General comments:

This paper presents interesting long-term trends of surface ozone measured at the six stations in Beijing City in northern China during a 6-year period. It fills in a gap of atmospheric photochemical pollution research which focuses on long-term ozone variations over Beijing area before the 2008 Olympic Games. Trajectory cluster analysis method used to disaggregate local and regional contribution is a unique aspect of this study that provides a clear interpretation of total oxidant trend.

This paper is well presented and suitable to be published at ACP with minor revisions. I will raise a few comments for the authors to take into consideration.

Specific comments:

1. The authors write that “the Quality control checks including automatic zero-calibration and span checks of gas analyzers were performed daily, and manual calibrations with standard gases were conducted weekly.” I would like some more details on this. What are the instruments for calibration?

2. Please list the reasons of applying 95\textsuperscript{th} percentile concentrations for comparison in different sites. Why not to use average daily maximum concentrations?

3. The authors write that “given that the morning maxima of NO and NO\textsubscript{2} concentrations reflect the mobile emission of NOx, we conclude that the increasing daily minimum [O3] is likely due to reactions with the decreasing daily morning [NO], accounting for the constant daily minimum [Ox] observed. Please give the daily minimum ozone concentration and ozone trend in Fig. 8.

Technical comments:

1. The authors should use the identical abbreviation of “ave\textsuperscript{b}” in Table 1 and “avg\textsuperscript{d}” in Table 2.

2. Please add the square brackets around names in Fig.9b just like in Fig.9a.

3. Figures can be seen clearer when I magnify your manuscript than in original size. I think the reason is too high resolution of your figures. Please lower the resolution.