

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.

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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 95th 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 NO₂ concentrations reflect the mobile emission of NO_x, 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 [O_x] 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^b” in Table 1 and “avg^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.