

Atmos. Chem. Phys. Discuss., author comment AC1
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Reply on CC1

Shenglun Wu et al.

Author comment on "Direct measurements of ozone response to emissions perturbations in California" by Shenglun Wu et al., Atmos. Chem. Phys. Discuss.,
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CC1

This is an interesting study presenting direct measurements of ozone response to emissions perturbations in California. I am not a referee of this paper. I post my comments to anticipate a better study.

Response: Thank you for your comments.

- Both NO₂ and O₃ in maintext and supplement should be expressed using subscript;

Response: Changes will be made throughout the manuscript as suggested.

- "Trend" is usually used for the variability of long term scale, at least, for year-scale. I don't think we can call the diurnal, seasonal, or even 1-3 years of change rates (variability) as "trend";

Response: Different fields may use the term "trend" for different purposes. The most general definition is "a general direction in which something is developing or changing". We believe that "trend" is the most appropriate term to describe the pattern of changing concentrations / sensitivities as a function of day-of-the-year given that our response variable is measured daily.

3.line 67-69, "that lower NO_x concentrations are associated with higher O₃ concentrations on weekends", I would say "....higher O₃ concentrations on weekends are associated with lower NO_x concentrations ". Same revision for the subsequent sentence.

Response: Change will be made as suggested.

- The HCHO/NO₂ is a time and region dependent indicator. Especially the change regime threshold is trick stuff. Please double check the comparison between the TROPOMI-based and ground-based values.

Response: All TROPOMI data has been checked, and two additional months of TROPOMI data have been added to the analysis.