Atmos. Chem. Phys. Discuss.,
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Effects of black carbon and boundary layer interaction on surface ozone in Nanjing, China" *by* Jinhui Gao et al.

Anonymous Referee #1

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This manuscript presents some very interesting results on the effect of black carbon on boundary layer development

and surface ozone. Most previous studies show the effects of black carbon on haze pollution or ozone photochemical

production, this study will provide more insights on ozone formation in China given the high balck carbon loadings.

The figures are of high quality while the presention quality needs improvements. I would ecourage the authors to find

native speaker or people with good English to polish the language. For the presented materials, I only have minor comments.

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Discussion paper

Specific comments: 1 the address for 5th institution should be 'Tropical and Marine Meteorology' 2 The conclusions in abstract are a little messy, please reorganzie your findings. 3 Page 9 line 17: Please define how you calculate the ozone gradient. 4 Page 10: the less ozone near the surface is very likely caused by less ozone production aloft (Figure 6d), not weakened tubulence. Please provide a more comprehensive exlanation for this. 5 Please be careful when interpret the surface VMIX term, because it also includes information of chemical production above surface. For example, if chemical production above surface larger and higher ozone above surface, it will lead to a positive VMIX term at the surface.

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