

This study describes a study in 2022 Shanghai lockdown by investigating the spatiotemporal variations in surface MDA8 O<sub>3</sub> and NO<sub>2</sub> concentrations, TROPOMI-based HCHO and NO<sub>2</sub> concentrations, and the cause of high O<sub>3</sub> concentrations during the 2022 LCD from two aspects: meteorological conditions and O<sub>3</sub> formation regimes. It have great insight on O<sub>3</sub> concentration increased in 2022 LCD, having greatly detailed data and substantial content. I am glad that the author can report the recent ozone pollution situation to us in a short time and make an in-depth analysis. But there are some problems, which must be solved before it is considered for publication. Below I have reported the lines in the text that require further investigation and clarification.

1. L25: the abbreviations of nitrogen should be NO<sub>x</sub> rather than NO<sub>X</sub>. Elsewhere the abbreviation is correct

2. 2.1 section: There is a lack of description of contaminant monitoring instruments and their detection limits.

3. L63: 3.3.1 title “Effects of meteorological conditions on O<sub>3</sub> concentrations in Shanghai”, I suggest changing the “O<sub>3</sub> concentrations” to “O<sub>3</sub> pollution”.

4. L164: “A large body of literature has indicated that meteorological conditions can significantly affect O<sub>3</sub> concentrations …”. there are only two references in the back, which seems a little weak. Suggest adding more references.

5. Fig.2: the inset figures show the monthly average concentrations, but the y-axis is missing units.

6. L126: based on the coverage in Shanghai that 2020 LCD date from 23 Jan to 23 Mar, but in this paper is 23 Jan to 12 Feb. Hope you can reconfirm it.

7. L209 (Fig.9): in this picture, your x-axis is HCHO/NO<sub>2</sub> ratio, and y-axis is MDA8 O<sub>3</sub> (ug/m<sup>3</sup>), but OMI HCHO/NO<sub>2</sub> and high-O<sub>3</sub> Probability (%) in your reference paper, respectively (Wang et al., 2021). Can you explain this difference? Whether the change of axis will affect O<sub>3</sub> formation regimes?