

Re: acp-2021-618 “The impact of peripheral circulation characteristics of typhoon on sustained ozone episodes over the Pearl River Delta region, China” by Ying Li et al.”

### **Responses to Reviewer comment**

#### General Comment:

The authors studied the impact of typhoon on the ground level ozone over the Pearl River Delta region based on surface observations of ozone and radar observations of wind profiles. They tried to understand the processes for the observed ozone enhancement associated with weak wind deepening (WWD) in the troposphere using WRF-Chem model and the process responsible for day-to-day variability of ozone during the episode.

Following are the comments

(1) It was felt that mathematical equations can be moved to Appendix/Supplementary, so that the paper becomes more crisp.

Reply: Thank you very much. We follow this comment. The Eqs.(1)-(3) and Eq.(5) have been moved to the support information. Please check the detail in the revised manuscript at lines 262~293.

(2) Presentation of results (particularly sec 3.4) needs substantial improvement.

Reply: Thank you very much. We follow this comment. Presentation of results have been improved significantly (particularly sec 3.4). Please check the revised manuscript.

(3) Need to improve the English language by correcting the grammar mistakes throughout the manuscript, including abstract and conclusion.

Reply: Thank you very much. We have rewritten some part of the abstract and conclusion, and revise the English writing through the manuscript by re-consulting the official editing service. Please see the invoice of the service below



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(4) Minor comments are commented as notes in the PDF version of manuscript.

Reply: Thank you very much. We have reviewed the minor comments in the acp-2021-618-RC1-supplement.pdf and revised them. Please check the detail in the revised manuscript at lines 14,65,203~206,309 and 341.