

Interactive comment on “CNOP based on ACPW for Identifying Sensitive Regions of Typhoon Target Observations with WRF Model” by Bin Mu et al.

Anonymous Referee #1

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this paper proposed something interesting, however, the paper is not clear in current version, and its language also requires improvement. In summary, there are several comments that may help to improve the quality of this manuscript.

- 1) The English requires improvement, some sentences look like just the direct translation of Chinese, it is preferred to let a native speaker check the whole language style of the manuscript.
- 2) In the proposed work, the authors only use CMA trace data for verification, which is considered not solid and strong. I suggest the authors to use more trace data for analysis and comparison, such as trace data provided by JMA and USA.

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- 3) The authors should explain the reason why these two typhoons are considered for analysis in this work, why they are representative? In fact, for further verification, more typhoon cases should be considered.
- 4) In the conclusion, the similarity of ADJ-CNOP and ACPW-CNOP of two typhoons are not very large. Or in other words, the similarity calculation is just cross-correlation.
- 5) Some terms are not clear at all, for general readers, such as the first guess field, the speed up and some others, the author should explain those terms for better understanding.
- 6) The author should explain the importance of adjoint model and explain whether it is truly necessary during the algorithm realization.
- 7) Why all the dry energy are adopted as objective function?

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