

Interactive comment on “Development of a three-dimensional variational assimilation system for lidar profile data based on a size-resolved aerosol model in WRF-Chem model v3.9.1 and its application in PM_{2.5} forecasts across China” by Yanfei Liang et al.

Anonymous Referee #2

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The subject of the article is promising and the results look interesting. Unfortunately the way it is written does not give the article the best output.

The abstract should be rewritten as it is really unclear. 171-175: you should specify it is the EARLINET network. 200-201: you should specify that the aerosol types will be describe later. 392-393: can you write PM₁₀=PM_{2.5}+.... for more clarity. Chapter 3: for each figure you have written "the figure demonstrates", figure can demonstrate

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nothing... Also except in the paragraph 3.4, no numbers are given, you just make qualitative comparison. Some more precise results will be welcome. Figure 4: it is not easy to read, maybe you should change the symbol color for the station. Figure 7: what are the green triangles? 691-694: You are doing 2 sentences to repeat the same just with the diurnal specification. You could do it in only one sentences.

The results behind looks interesting but I got a little bit frustrated that you have not been more precised on the results. Can you put some effort on adding some quantitative results (ie. increase by 10%, decrease by 0.2....)

I would like to encourage you to ask an English native to review your article.

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2020-223>, 2020.

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