

Atmos. Chem. Phys. Discuss., referee comment RC1
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Comment on acp-2020-1269

Anonymous Referee #3

Referee comment on "Measurement Report: Spatial and vertical variability of aerosol optical properties during MOABAI mobile on-road campaign in North China Plain" by Ioana Elisabeta Popovici et al., Atmos. Chem. Phys. Discuss.,
<https://doi.org/10.5194/acp-2020-1269-RC1>, 2021

This paper shows the observed results using the lidar, sunphotometer, and in-situ equipment mounted on a mobile vehicle. The main content is the analysis of observations in Beijing and NCP, where air pollution is the most common in China. Judging by the overall content, it is judged that it is unreasonable for this thesis to be published on the ACP in its current state.

Major Comments

- First, there seems to be no new scientific results in this paper. It is judged that the area to be observed has already been made a number of observations and researches and has not produced new analysis results.
- Second, what is judged as a new study result is a method of calculating the mass concentrations of PM₁₀ and PM_{2.5} from the results of LiDAR data. However, this part does not appear to be written as a representation of the paper as a part of the whole paper.
In addition, the proposed method is a method that must have sunphotometer data, so it is judged that the expansion of future application will be limited.

Therefore, it is judged that there are many parts that are insufficient for this paper to be published in this journal at the current state. In order to be published in this journal, it is judged that a new paper should be written centering on the results of new scientific research.

Technical comments;

- line 49: Does "a negative trend" mean "decreasing trend of PM2.5? If correct, these expressions are likely to be interpreted in the opposite way when readers read them. Please correct it as it can be interpreted as an increase in the concentration of PM2.5.

line 119: How did you correct the wind direction/wind speed data measured by the weather station installed on a vehicle running at 90 km/h? There is no mention of that part in the text.