Atmos. Chem. Phys. Discuss.,
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "What can we learn about urban air quality with regard to the first outbreak of the COVID-19 pandemic? A case study from Central Europe" *by* Imre Salma et al.

Anonymous Referee #1

Received and published: 12 October 2020

General remarks

This manuscript investigated the impact of the partial corona-virus lock-down on the air quality in Budapest. This topic, albeit a case study, has a high international value due the high general interest in such kinds of studies and because of the transferability and generalizability of these results. The specific impact of the reduced traffic intensity is studies with the help of long-term measurements, which allowed for a comparison of the 2020 data with several previous years. The methods are well described, the results are instructive, and the conclusions are generally drawn correctly. I have only a few comments that may be addressed in a revised version.

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Discussion paper

Minor comments

L29. I am not sure what is meant here. Did you intend to refer to “the possible role of atmospheric vehicle-induced mixing processes”?

L208: This unit conversion is based on the Magnus-equation.

L210: The coefficients of this Magnus-equation can only be applied above liquid water. Different coefficients A and B are needed above ice surfaces, i.e. T < 0 °C.

L278: Before, in the methods section you stated that you report absolute humidity and you report values for relative humidity.

Figure 7: Could you please show this plot also for vehicle circulations, which would help to explain the observed differences in air pollutant concentrations.

Figure 8 and 9: Please state that these plots show reanalysis data in the figure caption, so that the figure can be understood by itself.

L834: Is the expression in brackets really necessary?

L855-L857: It is not clear to me what is meant by this sentence and how this conclusion is supported by the presented results.

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