

***Interactive comment on* “Evaluation of high-resolution GRAMM/GRAL NO_x simulations over the city of Zurich, Switzerland” by Antoine Berchet et al.**

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Received and published: 21 July 2017

Dear authors,

I would like to congratulate you with the high quality paper submitted to GMD. It was a pleasure to read the paper. The modelling strategy and result are logically ordered and the red line can be followed very well. The paper deserves to be published with a few minor changes.

The few point I would like to raise are:

- line 476: The statements concern the local contribution. Could it be different for the

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regional background?

-Line 608: Concerning the potential chemistry the night time N₂O₅ route could be relevant at medium range NO_x levels as well. This reaction may also limit the life times to a few hours.

- Could you add a few lines on the possibility to assess the NO₂ levels based on your calculations and using ozone data? Would the assessment of NO₂ complicate the steady state classification scheme?

-Concerning emission modelling other emission categories also include temperature effect that may impact local contributions such as temperature and cold starts, etc.

- In a follow-up study I would be curious in how far the system is able to reflect concentration variability with meteorological parameters that are not used in the classification system directly, such as ambient temperature.

again it was a pleasure to learn about your very interesting model approach! Martijn Schaap

Interactive comment on Geosci. Model Dev. Discuss., <https://doi.org/10.5194/gmd-2017-102>, 2017.

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