

## ***Interactive comment on “The urban dispersion model EPISODE. Part 1: A Eulerian and subgrid-scale air quality model and its application in Nordic winter conditions” by Paul D. Hamer et al.***

### **Anonymous Referee #2**

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SC on The urban dispersion model EPISODE. Part 1: A Eulerian and subgrid-scale air quality model and its application in Nordic winter conditions.

The authors present work around a new air quality model. Whilst some theoretical background is covered, the paper is a little difficult to read and request a small number of general and minor points are responded to before publication in GMD.

General points:

It is stated that this model follows the same approach as others. Would an intercom-

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parison be possible? I appreciate the clear statement on the PSS assumption, but there is some reference to another model which has a gas phase component - is it not possible to compare outputs from the PSS assumption? Im not sure this assumption is worthwhile keeping for a generically useful model. Please clarify.

Minor points:

The section numbering, and reference to different sections in page 4 is confusing. When you refer to part 1, this is labelled as Section 2.

There are a number of formatting errors in the document. Please revisit the text and correct. These include:

Page 4. 'Sect. 6' please be consistent in using 'Section'

Page 4. line 6 ' part two(Karl et al., 2019) of this article describes the EPISODE-CityChem model'. Is this meant to be a new sentence? Also what article? Karl et al 2019? You then say 'Part two describes an application of EPISODE-CityChem for the city of Hamburg'. Part 2 in this paper? I think it is another paper.

4.1.2 Full-Year and Seasonal Model Evaluation - the formatting is tight spacing and bold, please correct

Page 16: 'The data sources, the methodology used, and emission reference years are summarized in .....Table 4 for each emission sector' there is a large gap please correct.

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Interactive comment on Geosci. Model Dev. Discuss., https://doi.org/10.5194/gmd-2019-199, 2019.

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