

## ***Interactive comment on “A novel model evaluation approach focussing on local and advected contributions to urban PM<sub>2.5</sub> levels – application to Paris, France” by H. Petetin et al.***

### **Anonymous Referee #1**

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In fact, the following comments/remarks are just suggestions:

#### General comments

This is a very well written, and impressive paper. A very nice balance between observations and modelling, and a novel approach for model evaluation based on the distinction between advected and local contributions. The reference list is impressive

#### Specific comments.

-The comparison with observations is/seems to be based on the model results as a mean value over the lowest layer of 40 m. In principle, it would be possible to consider

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a vertical gradient-due to dry deposition- in the lowest layer. Would such an approach have any impact on the results? -Page 6405, line 14-20. It is clear that going from dailt values to monthly mean will reduce the uncertainty. But, is there any indication of the cause of this. Is this due to ( local) emission variability or meteo-variability/ -Page 6407 Chosen is a minimum BL height of 150 m over urban areas. Is there any basis for this estimate, might its be related to an average effective building height and building density. As an example: would it be 150 m over Hong Kong also/

#### Technical comments:

Page 6394, line 9 Leave out etc- suc as is sufficient, or replace etc with text to state what you mean Page 6394 line 29 writes: regional background adds to the urban increment. I fail to understand this, the urban increment is due only to local phenemena, isn't it?

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Interactive comment on Geosci. Model Dev. Discuss., 6, 6391, 2013.

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