Reviewer’s report

Title: A tensor product quasi-Poisson model for estimating health effects of multiple ambient pollutants on mortality

Version: 0 Date: 29 Jan 2019

Reviewer: Xi-Ling Wang

Reviewer’s report:

The authors used the tensor product model in assessing the effects of multiple air pollutants on health outcomes, taking into account the complex interaction between air pollutants. The model demonstrated with better performance than single pollutant and conventional multi-pollutant models. The study contributes to improving statistical modelling in environmental health research. Below are some comments for the authors' consideration.


2. The author chose the 3-day moving average of air pollutants into the models. As the lag day is arbitrary, sensitivity analyses are necessary to demonstrate the robustness of the results.

3. Current study estimates of health effect of air pollutants should be compared with estimates from other studies. Please add a paragraph of discussion.

4. It is quite surprising that ER is more than doubled in females than in males. Are there any previous studies found such a big sex discrepancy on health effects of air pollutants? Which air pollutant contribute to the sex difference? Please discuss in detail.

Level of interest
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An article of importance in its field

Quality of written English
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Acceptable

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