

***Interactive comment on “Multi-model study of mercury dispersion in the atmosphere: Atmospheric processes and model evaluation” by Oleg Travnikov et al.***

**Anonymous Referee #1**

Received and published: 16 December 2016

This is an extensive modelling paper on mercury in the atmosphere by a large group of experts in their fields.

**General Comments**

I cannot fault the scientific content of this article, it presents a number of models and how their results compare with measurements.

**Technical Corrections**

This paper does require some English polishing and seems unfinished in places, the level is good and doesn't take away from the readability most of the time but there are a number of small errors which is surprising seeing as there are a number of English

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mother tongue co-authors.

Page 2 line 32 a paper is referenced as a question mark ?, similarly on page 3 line 9 there is a question mark before Hynes.

Page 5 line 12 sentence starting "The major chemical.... that missing a were before used in the BASE case....

Page 7 line 20, by is not the correct word, maybe should read optionally available via

Page 8 line 10 should read section 2.3

line 14 this is not the correct use of additivity, perhaps the authors means cumulative.

Page 9 line 9 should read The concentration of GEM....

line 32 should read Thus, a combination

Page 10 line 15, plural statistics so should read are shown in Fig.3

line 26 should be leads to a decrease in GEM levels

Page 11 line 6 missing an "a" between is and much, line 8...BASE case "are" shown not is

line 12 this is not the correct use of parameterisations

page 14 line 23 Br concentrations don't excite intensive oxidation, they might cause it but excite is not the right word. line 31 with is written twice before measurements

On page 15 line 15 the sentence starting unlike RM concentrations doesn't make sense, what are the authors referring to? The authors should re-write this sentence so that it makes sense.

Page 16 line 26, the sentence beginning They found doesn't make sense, the authors should re-write this sentence so that has a meaning.

Page 17 line 30, of between as and regions is redundant is takes away from the sense

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of the phrase. line 31 should read models agree relatively well with...

Page 18 line 2 beginning Application of doesn't make sense, authors should re-phrase

Line 6 identification of Hg species is a more specific measurement not a more extensive one.

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Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-924, 2016.