

## ***Interactive comment on “Parameterisation and impact of aerosol uptake of HO<sub>2</sub> on a global tropospheric model” by H. L. Macintyre and M. J. Evans***

**Anonymous Referee #1**

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This is a very nice paper examining the impact of the uptake of HO<sub>2</sub> on aerosols, including the development of a new parameterization and tests in a global chemical transport model. The results show that the new parameterization can have significant regional impacts on photochemistry and sulfate formation. The paper is very well written, clearly organized, with clear, supporting figures. I recommend publication after addressing the very minor technical points mentioned below.

p.16315, line 11: "such \*as\* sulfate"

p.16320, line 22: I think "using" is missing from "...simultaneously {} the lower..."

Table 2: Over what altitude ranges are the burdens calculated?

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Fig. 3: Clarify in the caption that you are showing the ratio of the 2 results.

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 16311, 2011.