

## ***Interactive comment on “Sulfur isotope fractionation during heterogeneous oxidation of SO<sub>2</sub> on mineral dust” by E. Harris et al.***

**Anonymous Referee #3**

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Like the other two reviewers, I don't have any major concerns with the manuscript presented here. Still, I will have a few questions: - Like it was mentioned by one of the other reviewers, how are the authors showing that the leaching protocols they are using is efficient? In other words, did they calculate this efficiency? How leaching time was adjusted? Was the leaching efficiency pH-dependent? - I am wondering about the necessity of using the NanoSIMS for the isotope analyses given its limitations in terms of precision compared to more "classical" ways of measuring isotope compositions. As the experimentation was in fine yielding SO<sub>2</sub> or BaSO<sub>4</sub>, wasn't it more straightforward to run the isotope analysis on a regular CF-IRMS? - What about investigating the MIF S isotope compositions?

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Interactive comment on Atmos. Chem. Phys. Discuss., 12, 2303, 2012.

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