

## ***Interactive comment on “Impacts of aerosols on the chemistry of atmospheric trace gases: a case study of peroxides and HO<sub>2</sub> radicals” by H. Liang et al.***

### **Anonymous Referee #1**

Received and published: 16 August 2013

General: This is a sound study on peroxides, mainly studied in field measurements in Beijing, China which in a modelling part also deals with the impact of aerosol particles on gas phase HO<sub>2</sub> and hence H<sub>2</sub>O<sub>2</sub>.

The field measurement part contains a number of interesting results. The modeling part much resembles recent work by Mao et al.

Overall, the paper can be published in ACP subject to a few revisions.

#### **Details**

Page 16557, line 7: The model mechanism which has been used should be fully documented. It is not sufficient to state "it has been chiefly drawn"....The full documentation can be given in a supplement.

P 16562, l 24: Schuchmann and von Sonntag

P 166572, l 15ff: Please give evidence that really diffusion is important for the differences between aerosol and haze periods. That might also be due to different aqueous phase chemical conversion as concentration change.

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Interactive comment on Atmos. Chem. Phys. Discuss., 13, 16549, 2013.