

Interactive comment on “Climate engineering by mimicking the natural dust climate control: the Iron Salt Aerosols method” by Franz Dietrich Oeste et al.

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Regarding the phase partitioning described in the manuscript, I would like to make two remarks:

- On page 13, you write: “Iron is completely part of the liquid or solid phase, so the Henry’s law constant is estimated to more than $10^6 \text{ mol m}^{-3} \text{ Pa}^{-1}$ (Sander, 2015)”, citing my compilation of Henry’s law constants. However, iron is not included in my publication. I am now curious about the origin of the value $10^6 \text{ mol m}^{-3} \text{ Pa}^{-1}$.
- Transfer between the gas phase and the aqueous phase is not determined by

short-lived radicals like $\cdot\text{Cl}$ and $\cdot\text{OH}$, as you indicate in Fig. 3. Instead, longer-lived molecules like H_2O_2 , Cl_2 , and HOCl determine the distribution between the phases. Thus, it is not sufficient to consider only the Henry's law constants of OH and Cl .

[Interactive comment on Earth Syst. Dynam. Discuss., doi:10.5194/esd-2016-32, 2016.](#)

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