

Interactive comment on “Particle acidity and sulfate production during severe haze events in China cannot be reliably inferred by assuming a mixture of inorganic salts” by Gehui Wang et al.

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Wang et al. (2018) discussed particle acidity and sulfate production for haze events in China by laboratory and field experiments. I think this paper may benefit from the following general and specific comments.

A general comment is regarding the discussion of particle acidity for the two laboratory experimental systems, which used ammonium oxalate and ammonium sulfate as seed particles, respectively. I think that the statement, “The ammonium oxalate is less acidic than ammonium sulfate”, is true for the bulk aqueous solution, but false for the aerosol particles under these experimental conditions.

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Several specific comments are regarding aerosol water uptake and particle acidity for different phase states (metastable versus stable).

Details are given in the attached pdf file.

Please also note the supplement to this comment:

<https://www.atmos-chem-phys-discuss.net/acp-2018-185/acp-2018-185-SC1-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-185>, 2018.

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