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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Large-scale ion generation for precipitation of atmospheric aerosols" *by* Shaoxiang Ma et al.

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It is well known that plasma include many charged and reactive species, can author provide more details about the plasma model employed in this study? By the way, does the author has the idea to measure the charge number of the charged droplets at the humidity >100% condition?

Answer: The plasma model employed in this study is based on the air plasma model we used in the previous 11 papers. The model includes O2, N2 and H2O species, and more than 200 reactions between these species. The charged species generated by plasma in the model includes electrons, O2-, O2+, O+, N2+, H+, H2O+ and et al.

It is difficult to mesure the charge number of charged aerosols. However, we designed

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an experiment to measure the charge amount of charged aerosols by stop the horizontal movement of charged aerosols by static electric field. We can calculate the charge amount by the horizontal speed of charged aerosols, the travelling distance of charged aerosols and electric field intensity. The paper is going to be published in Journal of physics D: Applied physics.

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