

## ***Interactive comment on “Size-resolved aerosol water-soluble ionic compositions in the summer of Beijing: implication of regional secondary formation” by S. Guo et al.***

### **Anonymous Referee #2**

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The manuscript investigates size-resolved aerosol water-soluble ionic composition in the Beijing area during summer. The obtained results are used to characterize the aerosol pollution in the summer of Beijing. Regional secondary aerosol formation was shown to lead to aerosol pollution in Beijing. The formation processes of measured water-soluble ionic compounds are also discussed in the manuscript. There are only few earlier studies with good size resolution in Beijing area, so this data gives new information on the possible pollution sources in Beijing, and it gives information on the atmospheric processes that produce secondary aerosol. Therefore I recommend its publication in ACP with some minor corrections.

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The use of English language should check throughout the text. Although the manuscript is in general well written, there are some sentences that are difficult to understand. Sometimes the reason is missing words.

The authors report that the mass median diameter of the second droplet mode found in PKU is around 1.4  $\mu\text{m}$ . The quite large diameter of this mode rises a question, if it could be related to small crustal or soil particles. The authors also report that large amount of calcium was found in fine particles in PKU.

The authors mentioned the use of the Steam Jet Aerosol Collection, but there is no mention about it in the experimental section. Information on the measurement device should be added (used flow rate and cut size, detection limits etc.). Was this device used in both measurement site? Also intercomparison of SJAC and MOUDI should added to the text, at least for the used ions, nitrate and ammonium.

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[Interactive comment on Atmos. Chem. Phys. Discuss., 9, 23955, 2009.](#)

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