



Effect of fatty acid coating on ozone uptake to deliquesced iodide particles

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Heterogeneous reactions involving particles and gas phase species are very important. The aim of this work is to study the role of organic aerosol constituents on the kinetics of phase transfer of gaseous species to deliquesced aerosol particles.

We investigate uptake of O_3 to neat iodide particles as a model system. O_3 is a very important oxidant, and several details of its transfer to the aqueous phase are not well established. In particular, organic coatings present in sea salt particles may impede its phase transfer. Iodide provides a substantial aqueous sink to drive uptake of ozone, and is present in sea salt aerosol. Moreover this reaction is important in halogen activation processes of the marine boundary layer.

The kinetic experiments will be performed in the aerosol flow tube at room temperature and atmospheric pressure. To obtain deliquesced iodide particles, the relative humidity was adjusted to 75%.

The first experiment is to determine ozone uptake and the bulk accommodation coefficient without coating. Then, experiments with stearic acid coating allow determining the effect of its amount on the uptake coefficient, in order to know if coating promotes or prevents phase transfer. Results will be shown and discussed.