



Hygroscopic properties of mixed inorganic/organic particles: Ammonium sulfate with citric, glutaric and adipic acid.

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A combined study of the hygroscopicity (capability of water uptake) of mixed inorganic/organic particles was performed by using two different instrumentations: the electrodynamic trap at the Institute for Atmosphere and Climate Science at ETH-Zürich, Switzerland, and a Hygroscopicity Tandem Differential Mobility Analyzer (H-TDMA) at the Paul Scherrer Institute, Switzerland.

The hygroscopicity of aerosols plays a major role for the direct and indirect effect on the climate. It is known that aerosols are often a mixture of inorganic and organic matter. A significant fraction of the organic matter is water soluble (WSOC) and affects light scattering, water uptake and phase transitions of multicomponent aerosols. Organic compounds with low hygroscopicity (like adipic acid in this study, for instance) can be responsible for complex morphologies which affect the hygroscopicity of inorganic salts and has to be studied separately.

In particular, bicomponent particles made of citric, adipic and glutaric acid together with ammonium sulfate with different mixing ratios were studied and the results are shown in this poster.