



## An overview of current issues in the uptake of atmospheric trace gases by aerosols and clouds

<http://www.firstlight.cn> 2010-11-10

A workshop was held in the framework of the ACCENT (Atmospheric Composition Change – a European Network) Joint Research Programme on "Aerosols" and the Programme on "Access to Laboratory Data". The aim of the workshop was to hold "Gordon Conference" type discussion covering accommodation and reactive uptake of water vapour and trace pollutant gases on condensed phase atmospheric materials. The scope was to review and define the current state of knowledge of accommodation coefficients for water vapour on water droplet and ice surfaces, and uptake of trace gas species on a variety of different surfaces characteristic of the atmospheric condensed phase particulate matter and cloud droplets. Twenty-six scientists participated in this meeting through presentations, discussions and the development of a consensus review.

In this review we present an analysis of the state of knowledge on the thermal and mass accommodation coefficient for water vapour on aqueous droplets and ice and a survey of current state-of-the-art of reactive uptake of trace gases on a range of liquid and solid atmospheric droplets and particles. The review recommends consistent definitions of the various parameters that are needed for quantitative representation of the range of gas/condensed surface kinetic processes important for the atmosphere and identifies topics that require additional research.

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