Atmospheric Aqueous Phase Photo- and Radical Chemistry

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An overview on photochemical processes of relevance for the understanding of atmospheric aqueous phase chemistry is given. Such processes may considerably contribute to the budgets of small radicals such as OH and NO_2 in the droplets of clouds and fog as well as in the aqueous aerosol.
For the better understanding of measured effective quantum yields from the UV-photolysis of anions and neutral precursor molecules in aqueous solution a simple model will be outlined and discussed. Its application for the description of available T-dependences is described.
The conversion of primary radicals such as OH and NO_2 may lead to other reactive species such as Cl/Cl2-, SO4- and others. With regards to cloud and aerosol chemistry, main pathways are discussed and selected results from box modelling using the Chemical Aqueous Phase Radical Mechanism (CAPRAM) are presented.