Insights into the Microscopic Surface Composition of Aqueous Solutions Using Photoelectron Spectroscopy on Liquid Micro-Jets

Gunnar ÖHRWALL
(MAX IV Laboratory, Lund University, Sweden)

Lundi 16 février 2015 – 14h
Amphithéâtre SOLEIL

The composition and structure of the surface of aqueous solutions has been a field of large scientific interest for a long time, but still holds many questions that remain to be investigated. Our main tool to probe aqueous solutions is core-level X-ray Photoelectron Spectroscopy (XPS) on a liquid micro-jet using synchrotron radiation. The key advantages of core-level electron spectroscopy are that we can probe both the chemical state and the microscopic spatial distribution of the component species, by taking advantage of the short attenuation length of the photoelectrons. Here, I will show recent results, which provide information on how the surface composition of atmospherically relevant aqueous systems varies with parameters such as bulk composition, pH, concentration and co-solvation.