

Aqueous Solution-Vapor Interfaces Investigated with Ambient Pressure X-ray Photoelectron Spectroscopy

Thursday, 9 September 2021 10:30 (30 minutes)

Aqueous solution-vapor interfaces govern important phenomena in the environment and atmosphere, including the uptake and release of trace gases by aerosols and CO₂ sequestration by the oceans.[1] A detailed understanding of these processes requires the investigation of liquid-vapor interfaces with chemical sensitivity and interface specificity under ambient conditions, i.e., temperatures above 270 K and water vapour pressures in the millibar to tens of millibar pressure range. This talk will discuss opportunities and challenges for investigations of liquid-vapor interfaces using X-ray photoelectron spectroscopy and describe some recent experiments that have focused on the propensity of certain ions and the role of surfactants at the liquid/vapor interface.

[1] O. Björneholm et al., Chem. Rev. 116, 7698 (2016).

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