

Surface science of low-vapor-pressure liquids

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Low-vapor-pressure liquids can be investigated using the methods surface science. In particular, angle-resolved XPS provides access to the liquid/gas(vacuum) and liquid/solid interfaces. It even allows for *in situ* studies of chemical reactions in the liquid. We report on recent investigations of ionic liquids [1] and of novel supported liquid metal catalysts.[2] The experiments were performed with our near-ambient pressure XPS lab setup, and with a newly developed two-analyzer lab-based XPS system that allows for simultaneous measurements of low-viscosity liquids at normal (0°) and grazing emission (80°).[3]

[1] F. Maier, I. Niedermaier, H.-P. Steinrück, J. Chem. Phys. 146 (2017) 170901 1-15

[2] N. Taccardi, M. Grabau, ...C. Papp, H.-P. Steinrück, P. Wasserscheid, Nat. Chem. 9 (2017) 862

[3] I. Niedermaier, C. Kolbeck, H.-P. Steinrück, F. Maier, Rev. Sci. Instrum. 87 (2016) 045105 1