Angle-Resolved Photoemission from Liquid Jets

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ABSTRACT

Due to the short mean free path of electrons in condensed media, photoelectron spectroscopy is a powerful tool to investigate surface properties, including the composition of liquid surfaces. The prospect of depth profiling liquid samples, by either changing the kinetic energy of the photoelectrons or, in the case of liquid flat jets, changing the emission angle, offers possibilities to gain insight in the surface structure that can be highly valuable for many applications.

However, one major difficulty in making quantitative estimates from intensities in photoelectron spectra lies in the poorly constrained values for inelastic and elastic scattering cross sections (total and differential). An avenue to obtaining more information on these parameters is to investigate the angular distribution of the photoelectrons. Here I will show some recent results from experiments of angle-resolved photoemission from liquid surfaces, using cylindrical and flat jets [1-3], as well as from Monte Carlo simulations of electron transport, where samples ranging from strong surfactants to bulk-solvated species have been investigated.

REFERENCES

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