Universität Münster

Aktuelle Fragen der Nanophysik

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R515, Wilhelm-Klemm-Str. 10

Photoemission tomography: An overview

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In physics and chemistry, photoemission orbital tomography (POT; sometimes called photoemission tomography) is a combined experimental / theoretical approach which reveals information about the spatial distribution of individual molecular orbitals. Experimentally, it uses angle-resolved photoemission spectroscopy (ARPES) to obtain constant binding energy photoemission angular distribution maps, so-called tomograms (also known as momentum maps or k-maps), to reveal information about the electron probability distribution in molecular orbitals. Theoretically, one rationalizes these tomograms as hemispherical cuts through the molecular orbital in momentum space.

In this talk I will give an overview over the development of the method in the last two decades up to more recent time-resolved POT.