

Seminář odd. 26

Tenkých vrstev a nanostruktur

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TÉMA

A STM approach to molecular conductance and the properties of ZnO

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The electron transport through single molecules and atoms as well as molecule--molecule contacts is investigated with low-temperature scanning probe microscopy. In the experiments, which aim at maximizing the control over the junction properties, the conductance, the acting forces and the emission of photons are probed. The talk will initially address the role of molecular structure and bonding as well as quantum noise properties. In a second part, I will present some recent results on the structure of the ZnO(0001) surface and the spectroscopy of subsurface donors. Being a two-terminal device the STM lacks a gate electrode for tuning the energy levels of nanostructures. An experimental approach is presented that enables tuning of the levels of a single donor without requiring a third electrode.

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