



Mittwoch, 14.10.2015, um **16:00 Uhr**

Ort: Reichenhainer Str. 90;

Zentrales Hörsaal- und Seminargebäude, Raum 2/N013

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Scanning-Tunneling-Microscope-Based Spectroscopies of Single Molecules and Atoms

We use low-temperature scanning tunneling microscopy (STM) to investigate molecular switches, magnetic atoms as well as dopants in semiconductors.

As to molecules, electrospray deposition, spin-state switching and intramolecular energy transfer processes will be addressed. The shot noise of the current through a junction provides additional information beyond the conductance. We implemented

electronic and optical noise spectroscopies in a STM. Results on spin transport and molecular charging will be discussed. Being a two-terminal device the STM lacks a gate electrode for tuning the energy levels of nanostructures. A new experimental approach to the tuning of the levels of a donor without a third electrode will be presented.

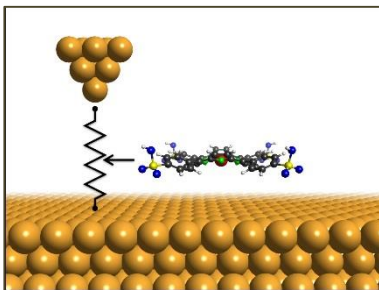


Figure 1:
Single-molecule junction.
Which electrostatic potential does a molecule experience as biased electrodes are brought closer to it?

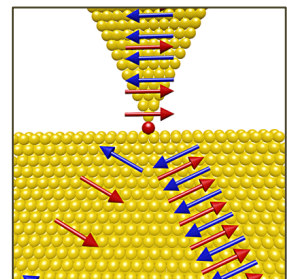


Figure 2:
Junction containing a single magnetic atom.
Is the electron transmission (or reflection) spin sensitive?

Alle Zuhörer sind ab 15:45 zum Kaffee vor dem Hörsaal eingeladen.

