Einladung
zum
Seminartag
(Teil II)
Freitag, 13. Mai 2016, 14:30 Uhr
Seminarraum PHY 5.0.21

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“Apparent reversal of the order of particle-in-a-box-like states in a single molecular wire”

*Part II*

Abstract:

The experimental visualization of electronic many-body correlations is a nontrivial task, mainly due to their modest impact on observables and their generally small energy scales, often below experimental resolution.

In this presentation we will show that the twofold charging of a dicyanovinyl-substituted quinque thiophene (DCV5T) molecule in an STM setup is associated to an unexpected ordering of the recorded molecular orbitals. The effect can be explained by taking into account intramolecular correlation, which is surprisingly strong in DCV5T.

To this end we introduce a minimal many-body Hamiltonian, which, in connection with an STM transport theory based on the density matrix formalism, is able to consistently rationalize several experimental observations as discussed in the talk by Nemanja Kocić.