EINLADUNG
ZUM PHYSIKALISCHEN SONDERKOLLOQUIUM

AM FREITAG, 24.04.2015 UM 10:00 UHR
Raum 46/387-388

ES SPRICHT:  Dr. Benjamin Stadtmüller
TU Kaiserslautern

Thema:  Momentum microscopy: A momentum space perspective of interactions and electron dynamics of hybrid interfaces

During the last decades, hybrid interfaces between organic and inorganic materials have attracted great interest not only due to their high relevance for future electronic and spintronic applications. They are also model systems which provide an ideal playground to study interactions across such interfaces and how these interactions determine experimental observables such as the vertical bonding distance or the energy level alignment. Although the latter has already been successfully investigated by photoelectron spectroscopy, it remains challenging in many cases to record the electronic structure of complex systems throughout the entire Brillouin zone. These limitations can be overcome by momentum microscopy, a novel tool for angle resolved photoemission.

In this presentation, I will demonstrate the potential of momentum microscopy to study the electronic fingerprints of the interactions occurring at (metal-organic) hybrid interfaces. In particular, I will focus on different ways to tailor the electronic (and thus also the geometric) properties of hybrid interfaces either "from the top" by charge doping of the adsorbate layer or "from the bottom" by surface alloying. These results will contribute to a more comprehensive understanding of these systems that can pave the way to a controlled design of hybrid interfaces according to their functional purpose. In addition, I will present time-resolved momentum microscopy results obtained for hybrid interfaces that will reveal the unique possibilities of momentum microscopy to directly trace relaxation pathways of excited electrons in momentum space.

Der Gast wird betreut von Herrn Prof. Aeschlimann.

GÄSTE SIND HERZLICH WILLKOMMEN.

Kaiserslautern, den 14.04.2015

DIE DOZENTEN DES FACHBEREICHS