

EINLADUNG

zum Vortrag von

Prof. Dr. Carlo Carbone

Istituto di Struttura della Materia, Consiglio Nazionale delle Ricerche, Trieste

Looking into a metal film: interface and surface effects on quantum confined electrons

am

Dienstag, 12. April 2011, um 17:30 Uhr

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals

Abstract:

Very thin metal films find a wide range of applications in today nanotechnologies. Progresses in film growth make available layer materials approaching an ideal two-dimensional character, with sharp interfaces and atomically uniform thicknesses. In line with simple quantum mechanics, finite size effects give rise to series of discrete electronic levels, which finely tune chemical reactivity, superconductor temperature, and magnetic coupling. A deeper understanding and control of the film properties often calls however for a close description of electron interactions at the film boundaries. Selected studies by photoelectron spectroscopy will illustrate various cases of interplay between interface, surface, and quantum confinement effects of different nature and complexity. In particular, the effect on the film electronic structure of the substrate band and lattice mismatch, and of exchange and Rashba interactions, will be discussed together with their implications for the film physical and functional properties.

CHEMISCH-PHYSIKALISCHE GESELLSCHAFT

c/o Universität Wien, Fakultät für Physik, 1090 Wien, Strudlhofgasse 4/Boltzmannngasse 5, Austria
Tel.: +43-(0)1-4277/51108 - Fax: ++43-(0)1-4277 9511 - E-Mail: Christl.Langstadlinger@univie.ac.at
<http://www.cpg.univie.ac.at>

Konto: Bank Austria Nr. 08644408000 - BLZ 12000 - IBAN: AT22 1100 0086 4440 8000 - BIC: BKAUATWW
Vorsitzender 2010/11: Ao.Univ.Prof. Dr. Peter Mohn, Institut für Angewandte Physik, TU Wien