FRI2M: Surface, Interface and Low-Dimensional Physics - Electronic Properties IV

Chaired by A. Ciszewski, University of Wroclaw, Wroclaw, Poland

Time: Friday 10:30–11:50 Location: Aula Magna

FRI2M.1 10:30 Aula Magna

Intra-atomic charge re-organization at the Pb-Si interface: bonding mechanism at low coverage — •Martin Švec[1], Viktor Dudr[1], Pingo Mutombo[1], Kevin Prince[2], and Vladimír Cháb[1] — [1]Institute of Physics, Academy of Science of the Czech Republic, Cukrovarnická 10, 162 53, Prague, Czech Republic — [2]Sincrotrone Trieste, Strada Statale 14, km 163.5, 34012 Basovizza-Trieste, Italy

For the beta- and gamma-Pb/Si(111)–($\sqrt{3} \times \sqrt{3}$)R30° surfaces, we performed photoemission diffraction experiments and extensive DFT calculations, which clarify the bonding of atoms to the substrate and related electronic/structural effects.

FRI2M.2 10:50 Aula Magna

Commensurable resistance oscillations in the ballistic transport of electrons on cylindrical surfaces — •Klaus-Juergen Friedland, Rudolf Hey, Helmar Kostial, and Angela Riedel — Paul-Drude-Institut fuer Festkoerperelektronik, Hausvogteiplatz 5*7, 10117 Berlin, Germany

We observe resistance oscillations in the ballistic transport of electrons on cylindrical surfaces which periodicity depends on the square-root of the magnetic field. We relate these oscillations to snake-like orbits for tangentially oriented magnetic fields.

FRI2M.3 11:10 Aula Magna

New Lights on Correlations in High T_c Superconductors: the First Application of Gutzwiller Approximation to Auger Transitions — Simona Ugenti[1,2], Michele Cini[1,2], •Josè Lorenzana[3], Goetz Seibold[4], Enrico Perfetto[2,5], and Gianluca Stefanucci[1,2] — [1]Dipartimento di Fisica, Università di Roma "Tor Vergata", Via della Ricerca Scientifica 1, I-00133 Rome, Italy. — [2]Istituto Nazionale di Fisica Nucleare - Laboratori Nazionali di Frascati, Via E. Fermi 40, 00044 Frascati, Italy. — [3]SMC-INFM, ISC-CNR, Dipartimento di Fisica, Università di Roma "La Sapienza", P. Aldo Moro 2, I-00185 Rome, Italy. — [4]Institut für Physik, BTU Cottbus, P.O. Box 101344, 03013 Cottbus, Germany. — [5]Dipartimento di Scienza dei Materiali, Università di Milano-Bicocca, Via Cozzi 53, 20125 Milano, Italy.

In this work we show the first application of the recently developed Time Dependent Gutzwiller's Approximation to the computation of the dynamical two particle response function describing Core-Valence-Valence Auger transitions from CuO_2 planes.

FRI2M.4 11:30 Aula Magna

Origin of the decoherence in the Integer Quantum Hall Regime — •Preden Roulleau[1], Fabien Portier[1], Antonela Cavanna[2], Giancarlo Faini[2], Ulf Gennser[2], Dominique Mailly[2], and Patrice Roche[1] — [1]CEA Saclay , Service de Physique de l'Etat Condense, Nanoelectronic group, F-91191 Gif-sur-Yvette, France — [2]CNRS, Laboratoire de Photonique et Nanostructures, Phynano team, Route de Nozay, F-91460 Marcoussis, France

An electronic Mach Zehnder interferometer is used in the IQHE regime at filling factor 2, to study the dephasing of the interferences.