

MON1F4: Superconductivity and Highly-Correlated Systems - High Tc Superconductivity I

Chaired by E. Tosatti, SISSA, Trieste, Italy

Time: Monday 15:10–16:30

Location: Aula 4

Invited talk MON1F4.1 15:10 Aula 4

Electronic and Magnetic Excitations of High-Temperature Cuprate Superconductors Probed by ARPES and Neutron Scattering — •MING SHI² and JOEL MESOT¹ — ¹Paul Scherrer Institute, Villigen, Switzerland — ²Swiss Light Source, Paul Scherrer Institute, Switzerland

Recent results obtained on LSCO will be presented. Issues such as the shape of the superconducting order parameter and its doping dependence, coherent vs incoherent excitations and anisotropic scattering will be discussed.

MON1F4.2 15:50 Aula 4

Collective modes of inhomogeneous states in cuprates — •JOSÉ LORENZANA¹ and GOETZ SEIBOLD² — ¹SMC-INFM, ISC-CNR, Dip. di Fisica Università degli Studi di Roma “La Sapienza”, P. Aldo Moro 2, 00185 Roma, Italy — ²Institut für Physik, BTU Cottbus, PBox

101344,03013 Cottbus, Germany

We will show computations of collective modes of inhomogeneous cuprates that explain the evolution of several spectroscopies (neutron, optical) with doping. We will discuss the relevance of these results for the normal and superconducting properties.

MON1F4.3 16:10 Aula 4

Two Energy Scales in Strongly-Correlated Superconductors — •MASSIMO CAPONE — SMC CNR-INFM and University of Rome “La Sapienza”, P.le A. Moro 2, I-00185, Rome, Italy and ISC-CNR, Via dei Taurini 19, I-00185, Rome, Italy

We show the general existence of two energy scales (gaps) in the superconducting phase of strongly correlated systems. The large scale remains finite even in the insulating state, while the small one vanishes at half-filling.