Institut de Minéralogie et de Physique des Milieux Condensés
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SÉMINAIRE
Lundi 6 Juin, 10h30

Salle de Conférence, 4ème étage, Tour 22-23, Salle 1
IMPMC, Université P. et M. Curie, 4, Place Jussieu, 75005 Paris

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Synchrotron SOLEIL – Saint Aubin

NOVEL ELECTRONIC STATES INVESTIGATED BY ARPES: COBALTATES AND MONOSILICIDES

In cobaltates, metallic CoO_2 planes can be doped from the Mott-insulator limit to the band insulator one. Surprisingly, signatures of strong correlations appear in proximity of the band insulator limit, where good metallicity coexists with Curie-Weiss susceptibility and high thermoelectric power. We evidenced the signatures of strong correlations in angle resolved photoemission (ARPES) spectra of cobaltates and quantified the strength of correlations when approaching the band- insulator limit. In the second part of my talk, I show very first Fermi surface mappings of MnSi compound. MnSi is considered to be a prototype of weakly itinerant ferromagnet and, in an unexpected way, presents a quantum critical point under pressure and non-Fermi liquid phases that extend well above the critical pressure p_c. Nowadays, a determination of its electronic structure by ARPES is still lacking, due to difficulties in measuring single crystals compounds. I show how growing MnSi on Si(111) allows to perform high-resolution ARPES measurements.

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