S E M I N A R

Instituto Nicolás Cabrera

When: *Thursday, 23 June 2016*, 12h30

Where: Departamento de Física de la Materia Condensada, Facultad Ciencias, Módulo 3, aula de Seminarios (5ª planta)

Speaker: Gaël Bastien, Univ. Grenoble Alpes, INAC-SPSMS, F-38000 Grenoble, France.

Title: ***Quantum oscillations studies in the ferromagnetic superconductor UCoGe and in the hidden order state of URu_2Si_2***

Abstract:

Magnetic quantum oscillations are a fundamental experimental probe to determine Fermi surface properties. In the first part of the talk we will discuss the interplay between the Fermi surface, magnetic quantum criticality and unconventional superconductivity in the ferromagnetic superconductor UCoGe. We report magnetoresistance Hall effect and thermopower measurements in the ferromagnetic superconductor UCoGe under high magnetic field applied along the easy magnetization axis c. Quantum oscillations were detected both in resistivity and Seebeck effect. A cascade of Fermi surface reconstructions without magnetic phase transitions were observed in high magnetic fields up to 34 T and they were discussed in terms of topological Lifshitz transitions. In the second part of the talk we will discuss quantum oscillations experiments in the hidden order state of URu2Si2. We will show that the oscillations allow to study microscopically the anisotropy of Landé factor g. This measurement will help us for a better understanding of the hidden order and the appearance of unconventional superconductivity in URu2Si2.

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