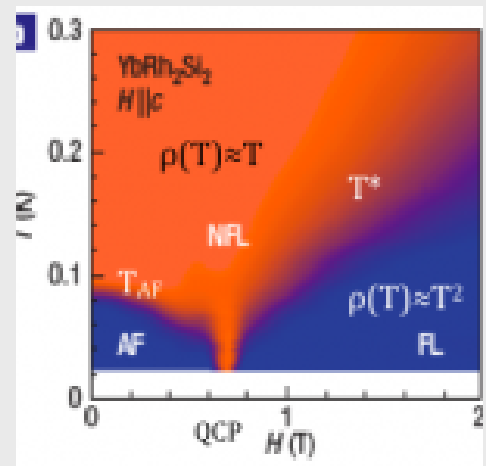


Strongly Correlated Electrons in Quantum Materials and in Far from Equilibrium Nanostructures

Funding Agency: Spanish Ministry of Science and Innovation.

Duration: January 2013 – December 2016.

Principal Investigator: [Jaime Merino](#).



Description:

The main goal of this project is to study the novel phases of matter that can appear in materials in which strong electron-electron interactions play an important role in determining their electronic properties. We concentrate on several important aspects which occur in such strongly correlated systems: possible novel states of matter close to quantum phase transitions, geometrical frustration effects in Mott insulators and far from equilibrium phenomena in nanostructures. Our proposal is relevant to the understanding of electronic properties of organic materials, heavy fermions, transition metal oxides and nanostructures with potential technological impact in the future. It also includes the development of theoretical approaches that can describe correlated insulators under external fields.