



OPEN TALK ANNOUNCEMENT

30 November 2016

4:00 p.m.

Fermion

Speaker:

Prof. Mukunda P. Das

(VASP Short Term Visitor to Dr. Ranjan Chaudhury)

Affiliation:

Department of Theoretical Physics,
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Title:

Fermiology in Condensed Matter Physics

Abstract

The Fermi surface is an abstract object in the reciprocal space for a material lattice, enclosing the set of all electronic band states that are filled according to the Pauli principle. Its topology is dictated by the underlying material structure, and its volume is the carrier density in the material. The Fermi surface is central to predictions of thermal, electrical, magnetic, optical and superconducting properties in metallic systems.

In this talk I shall discuss mainly complex correlated systems emphasizing several key facts about Fermi surfaces, where a proper theoretical understanding is still lacking. We address some critical difficulties whether the Fermi surface is a ground state property and concerning its stability in strongly correlated systems.
