

628th ASRC Seminar

Date: 10:30 ~ 12:00 Thursday, March 10

Location: Meeting room 302, ASRC Building

Speaker: Prof. Zachary Fisk
(University of California)

Title: Coherence and Crystal Fields in Ce-based heavy Fermions

Abstract: The establishment of coherent Bloch states in heavy Fermion materials involves entangling the f-spin degrees of freedom with those of the conduction electrons with corresponding change in the Fermi surface. Coherence only develops when excited crystal field levels become depopulated in heavy Fermions, intermediate valent materials belonging to a different regime of f-electron – conduction electron coupling. Kondo insulators are argued to be a particular instance of coherent behavior, with data from $\text{La}_3\text{Bi}_4\text{Pt}_3$ – $\text{Ce}_3\text{Bi}_4\text{Pt}_3$ alloys showing how coherence develops only at high Ce concentration.

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