**Charge Delocalization and Quantum Criticality in Strongly Correlated Electron Systems**

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The Fermi-surface change associated with the electronic localization–delocalization transition is emerging as a unifying theme across the strongly correlated electron materials. Among them, the localization–delocalization transition of *f*-electrons in the heavy-fermion system is realized by the destruction of the Kondo effect. The evolution of the Fermi surface across the quantum critical point (QCP) is a key for characterizing the quantum criticality and understanding its relation with unconventional superconductivity. In this talk, we discuss the electrical and thermal transport measurements under extreme conditions to investigate a change in Fermi surface across the QCP and its implication on quantum criticality in strongly correlated electron systems.