TECHNISCHE UNIVERSITÄT WIEN

INSTITUT FÜR FESTKÖRPERPHYSIK
Institute of Solid State Physics

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EINLADUNG zum IFP-SEMINAR

Flat Bands and Correlated Metallic States in Kagome Metals

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Massachusetts Institute of Technology

Host: Silke Bühler-Paschen

Termin: Mittwoch, 22. März 2023, 16:00 Uhr

Ort: TU Wien, Freihausgebäude

Wiedner Hauptstraße 8-10, 1040 Wien

Seminarraum DC rot 07 (roter Bereich, 7. OG)

Oder via ZOOM
https://tuwien.zoom.us/j/61705834223?pwd=bjJ3cXVKdGsxbXFqdGJ5U2JQUVR0UT09

Abstract:

The notion of an electronic flat band refers to a collectively degenerate set of quantum mechanical eigenstates in periodic solids. The vanishing kinetic energy of flat bands relative to the electron-electron interaction is expected to result in a variety of many-body quantum phases of matter. Here we present recent developments in realizing flat bands in transition element-based kagome metals. We will present recent experiments in which a partial filling of a flat band is associated with unusual transport and thermodynamic that recall those of strongly correlated systems. We will also comment on the potential role of band topology and prospects for using similar lattice and orbital engineering to realize new correlated systems.

Supported by:

FWF Der Wissenschaftsfonds. Q-M&S Correlated Quantum Materials & Solid State Quantum Systems erCorMeTop