



TECHNISCHE
UNIVERSITÄT
WIEN

INSTITUT FÜR FESTKÖRPERPHYSIK
Institute of Solid State Physics

Wiedner Hauptstr. 8-10/138, 1040 Wien
<https://www.tuwien.at/phy/ifp>

EINLADUNG zum IFP-SEMINAR

Electron-electron and electron-phonon contributions to resistivity in SrVO₃

Jernej Mravlje

Jozef Stefan Institute, Faculty of Mathematics and Physics,
University of Ljubljana, Slovenia

Host: Karsten Held
Termin: Donnerstag, 13.06.2024, 16:00 Uhr
Ort: TU Wien, Freihausgebäude
Wiedner Hauptstraße 8-10, 1040 Wien
Seminarraum DC rot 07 (roter Bereich, 7. OG)

Abstract:

Electronic transport is difficult to evaluate in realistic setting. I will discuss calculations of resistivity in a prototypical correlated metal SrVO₃.

Experimentally SrVO₃ has a quadratic behavior of resistivity up to room temperature, seemingly consistent with Fermi liquid and moderately correlated nature of SrVO₃. But dynamical mean-field theory severely underestimates resistivity and indicates electron-electron scattering contributes only an insignificant fraction. We have shown that contrary to expectations, it is actually electron-phonon contribution that due to activation of optical phonons dominates the scattering and leads to an apparent Fermi liquid behavior close to room temperature.