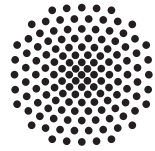


Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Festkörperforschung
Fachbereich Physik, Universität Stuttgart

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Hybrid

Login data will be announced by e-mail and on the colloquium webpage.

Dienstag, 9. April 2024

16.15 Uhr

Lecture Hall 2D5

Max-Planck-Institut für Festkörperforschung, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Hund Metals: A Distinct Pathway to Strong Electronic Correlations

Antoine George

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Abstract

Multi-band/multi-orbital materials offer a fertile platform for exploring the physics of strong electronic correlations. In recent years, the concept of 'Hund metals' has emerged as a new pathway to strong correlations, distinct from the Mott and heavy fermion paradigms. The properties of iron superconductors and transition-metal oxides of the 4d series such as ruthenates have been successfully explained by realizing that notions from atomic physics, such as Hund's coupling, play a key role in the solid-state. Dynamical Mean Field Theory is the proper theoretical framework to take these effects into account. In this talk, I will describe the general properties of Hund metals and illustrate them mostly on Sr_2RuO_4 – a remarkable material which can serve as a precision laboratory for many-body physics.

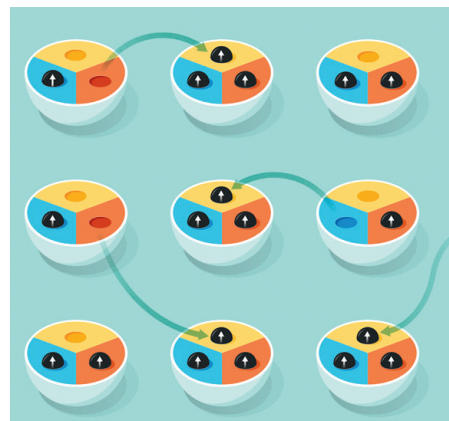


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Lucy Reading-Ikkanda and Physics Today, April 2024