



Invitation to a talk

Correlated electronic states and superconductivity in atomically thin van der Waals materials

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Termin: Tuesday, April 30, 2024, 15:00

Ort: Lise-Meitner-Lecture Hall
9. Boltzmannngasse 5

Abstract:

Understanding superconductivity in strongly correlated materials remains a major challenge in condensed matter physics. Two-dimensional materials promise unique insights into this problem, owing to the reduced dimension and their highly tunable phase diagrams. In this talk, I will present efforts to achieve rich correlated electronic states and superconductivity in atomically thin van der Waals(vdW) materials. In particular, I will discuss a case in the narrow electronic band of twisted bilayer graphene. By probing entropy and magnetic moment, our experiment discovered an isospin Pomeranchuk effect in which a symmetry-breaking phase appears with increasing temperature. Finally, I will discuss future prospects of studying correlated electronic states and superconductivity in vdW materials.

As part of the presentation, there will be a teaching demonstration on the topic "Perfect conductors vs. superconductors".