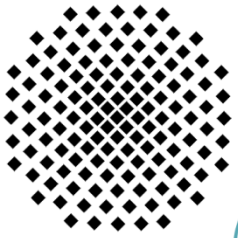
Stuttgarter Physikalisches Kolloquium

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

Ansprechpartner: Prof. Harald Giessen
E-Mail: giessen@physik.uni-stuttgart.de
Telefon: 0711 - 685-65111



Dienstag, 9. Januar 2024	16:15 Uhr	V57.02

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Dr. Harald Gießen, Universität Stuttgart, Telefon: 0711 - 685-65111

The Magic of Moiré Quantum Matter

Pablo Jarillo-Herrero
Massachusetts Institute of Technology

Abstract

The understanding of strongly-interacting quantum matter has challenged physicists for decades. The discovery five years ago of correlated phases and superconductivity in magic angle twisted bilayer graphene has led to the emergence of a new materials platform to investigate strongly interacting physics, namely moiré quantum matter. These systems exhibit a plethora of quantum phases, such as correlated insulators, superconductivity, magnetism, ferroelectricity, and more. In this talk I will review some of the recent advances in the field, focusing on the newest generation of moiré quantum systems, where correlated physics, superconductivity, and other fascinating phases can be studied with unprecedented tunability. I will end the talk with an outlook of some exciting directions in this emerging field.