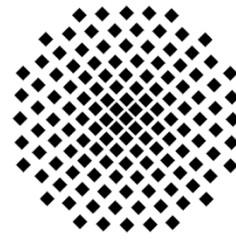


# Stuttgarter Physikalisches Kolloquium

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

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Dienstag, 4. Februar 2024

16:15 Uhr

V57.02

Universität Stuttgart, Pfaffenwaldring 57, 70569 Stuttgart-Vaihingen

Gastgeber: Prof. Dr. Maria Daghofer, Universität Stuttgart, Telefon: 0711 - 685-65255

## Fractional Chern and Fractional Topological Insulators

**Titus Neupert**  
*Universität Zürich*

### Abstract

The fractional quantum Hall effect has recently been realized without an external magnetic field in Moire heterostructures of transition metal dichalcogenides. This offers a new approach to fractional quantum Hall physics, as these systems can be probed with a wide range of experimental methods and are highly tunable. I will present the theoretical foundations for the emergence of such states and how they can be explored with state of the art numerical methods. I will further discuss how the same material platform can potentially host time-reversal symmetric counterparts of these states, the fractional topological insulators.