PHYSIKALISCHES KOLLOQUIUM

Wintersemester 2021/22

Das Kolloquium findet (soweit nicht anders angegeben) jeweils montags um 17:15 Uhr in Präsenz im Röntgen-Hörsaal des Physikalischen Instituts, Hubland Campus Süd, Universität Würzburg und online via Zoom statt.

Link zum Zoom-Raum:
https://go.uniwue.de/physkolloqzoom

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Dr. Flore Kunst
Max-Planck-Institut für Quantenoptik, Garching

Topological phenomena in non-Hermitian systems

Abstract

While topological phases of matter have mostly been studied for closed, Hermitian systems, a recent shift has been made towards considering these phases in the context of non-Hermitian Hamiltonians, which form a useful approach to describe dissipation. Such Hamiltonians may feature many exotic properties, which are radically different from their Hermitian counterparts, such as the generic appearance of exceptional points, and the piling up of bulk states at the boundaries known as the non-Hermitian skin effect. In this talk, I will make use of two-band models to study these features in more detail, and study the appearance of exceptional points in the presence of symmetries. Additionally, I will show that even though the conventional bulk-boundary correspondence breaks down, it is possible to define a biorthogonal bulk-boundary correspondence by making use of biorthogonal quantum mechanics.

Für die Dozentinnen bzw. Dozenten der Fakultät

Prof. Dr. Thomale, Prof Dr. Buson, Prof. Dr. Klembt und Hr. Frerichs