



RUHR-UNIVERSITÄT BOCHUM
FAKULTÄT FÜR PHYSIK UND ASTRONOMIE

PHYSIKALISCHES KOLLOQUIUM

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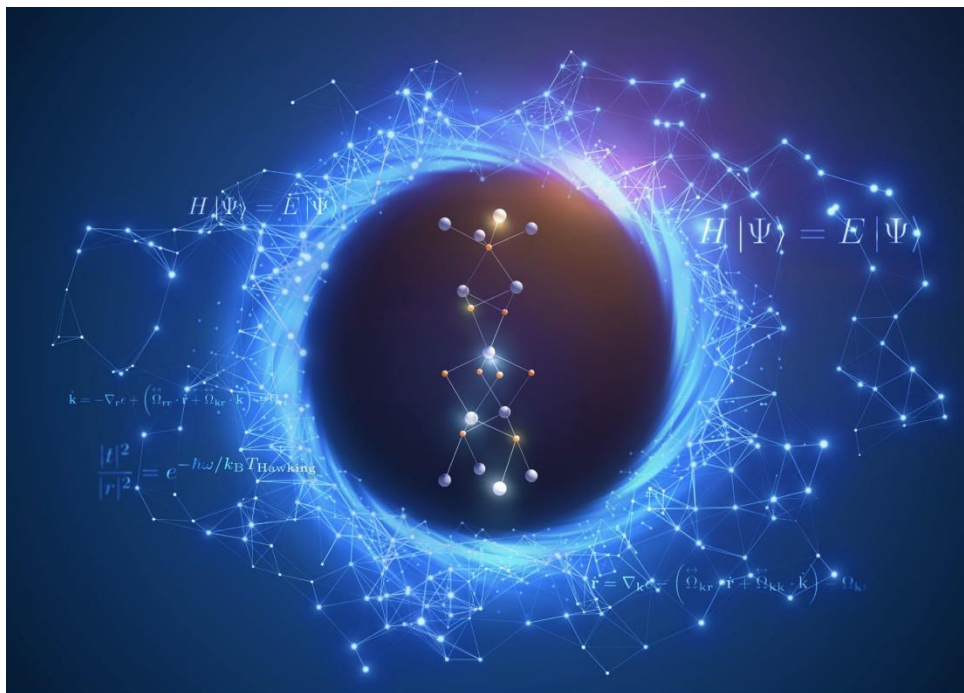
Sommersemester 2022

Montag, 04.07.2022, 12 Uhr c.t. im HNB und
hybrid als [Zoom meeting](#) (Meeting-ID: 632 5520 9938, Passwort: 526977)

Topology - open and with diverse backgrounds

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The advent of topological physics has been a major disruption in the way we think about condensed matter physics. In its most basic form, topological physics relies on the definition of topological invariants defined from the wave functions in the Brillouin zone, including for example the Chern number governing the Hall effect. Implicitly, this view of topological physics requires closed systems with translation invariance.

In this talk, I will show that the fact that any experimental system is open (coupled to its environment) and never fully translationally invariant can be a resource rather than a nuisance. When suitable couplings to environments and inhomogeneities are induced, topological systems exhibit a plethora of novel phenomena, including black hole analogies and non-trivial steady states. This highlights that the study of topological systems out of the "comfort zone" (closed and translationally invariant) is a worthwhile direction for future research.

Einführung: Prof. Dr. Michael Scherer

Vor dem Vortrag werden Kaffee und Kekse angeboten.

Die Fakultät lädt alle Interessierten herzlich ein.