



Colloquium Dahlem Center for Complex Quantum Systems

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Fractional topological insulators

Location: Hörsaal A (1.3.14)

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Abstract

The field of topological band insulators/superconductors was born with the discovery of the integer quantum Hall effect.

In the last 6 years, it was predicted that topological band insulators and superconductors exist in five different incarnations for any dimension of space.

This prediction has been verified experimentally in two and three dimensions for the so-called \mathbb{Z}_2 topological band insulators. The fractional Hall effect realizes an even more exotic state of matter. In this talk, I will discuss some conditions under which fractional topological insulators can arise in lattice models for fermions.