

Physics Department Seminar

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11:00 am, Room: GSB 408

The Unfinished Theory of Topological Quantised conductances

Abstract:

After the discovery of the Quantum Hall Effect more than four decades ago, concepts of topology were successfully applied to understand it. Consequently, several other similar systems, Chern insulators, topological insulators were predicted and experimentally found. However, it is still not fully understood how the topology manifests as quantised conductances in open systems, namely samples coupled to metallic leads.

In this talk we first review the relevant developments of the past decades. We then describe our attempts to understand the system coupled to leads within the framework of a simple microscopic model.