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Edge states in a two-dimensional topological insulator from the BHZ model

The Bernevig-Hughes-Zhang (BHZ) model describes the low-energy behavior of a two-dimensional topological insulators. One of the key features of these materials is the presence of a fully insulating gap in the bulk and gapless edge states topologically protected by time-reversal symmetry. In this work, we show the existence of these states in the BHZ model by solving the Schrödinger equation considering hard wall boundary conditions. Additionally, we numerically solve this equation in a strip geometry and study the characteristic of the edge states.

Breve historial académico

Estudiante de último año de la EP de Física, perteneciente al Grupo de Física Teórica de la UNMSM. Anteriormente he presentado un póster analizando el modelo JR para un aislante topológico en el Física Teórica del Río Rimac XVII.

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