第 18 回トポロジカル物質科学セミナー
Topological Materials Science Seminar (18)

Strong Backscatterer at the Edge of a Two-dimensional Topological Insulator

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Place: **Room 413**, Department of Physics, Graduate School of Science Building No. 5, Kyoto University

Date: **October 26 (Wednesday), 2016**

Time: **13:30pm-**

Abstract:

We study the problem of a backscattering impurity coupled to the edge states of a two-dimensional topological insulator. In the regime where the backscattering potential is larger than the band gap and accounting for electron-electron interactions, it is shown that the system can be described as a resonant level coupled to the one-dimensional (1D) channel of interacting edge electrons. We discuss the relationship of this system to the model of a (structureless) impurity in a 1D interacting electron liquid. Different from the latter model, transmission is suppressed for both repulsive and weak to moderate attractive interactions in the resonant regime.

Reference: Jun-Hui Zheng and Miguel A. Cazalilla, arXiv:1609.06227 (2016).

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