

Abstract

Florian Dorsch

Pseudo-gaps for random hopping models

For one-dimensional random Schrödinger operators, the integrated density of states is known to be given in terms of the (averaged) rotation number of the Prüfer phase dynamics. We develop a controlled perturbation theory for the rotation number around an energy, at which all the transfer matrices commute and are hyperbolic. Such a hyperbolic critical energy appears in random hopping models. The main result is a Hölder continuity of the rotation number at the critical energy that, under certain conditions on the randomness, implies the existence of a pseudo-gap. This is illustrated by numerics.