Condensed Matter Theory Center Seminar

CMTC

Monday October 21, 2013
2:00 pm – 3:00 pm, Physics Building 2205

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Numerics of quantum transport

Calculating various transport properties is as easy as writing down a linear system of tight-binding equations and solving it. Despite it sounds simple, both parts of this task turn out to be difficult. I will discuss the problems that one encounters in each step. These are not just the issues of numerical efficiency and stability, but also the task of translating from a physical problem to the corresponding linear system of equations. I will introduce the software package Kwant, which is the solution to these problems that me and my collaborators have developed. I will also show its applications to topological superconductors, Majorana nanowires and graphene.

<div align="center">(All are welcome to attend)</div>

physics
University of Maryland