Tomi Ohtsuki
Physics Division, Sophia University, Tokyo

Title: Effects of disorder on weak and strong topological insulators

Abstract: We highlight unexpected robustness of transport properties in disordered three-dimensional Z2 topological insulators.
We have used transfer matrix method to study the phase diagram of a model yielding both the weak and strong topological insulator
(WTI and STI) phases. We have found that the average two-terminal conductance is quantized both in the bulk and slab geometries.
This indicates that the surface Dirac cones in the STI and WTI phases as well as bulk Dirac cones at the phase boundaries exhibit
robustness against disorder. We have also studied the Lyapunov exponents in the quasi one-dimensional geometry.