



Materials Science Division Seminar

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“Effects of disorder in Floquet topological phases”

Host: Ivar Martin

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Abstract:

Periodically driven systems provide a novel platform to realize rich topological phenomena, with Floquet topological insulators being the best known example. In fact, it is possible to realize topological phases in these systems with no analogs in static systems. In my talk, I will present results on the effects of disorder in various Floquet topological phases. In the first part of my talk, I will examine the robustness of the Floquet topological insulator to disorder. In the second part, I will present two new disorder-induced topological phenomena in time-periodic systems. The first is an example of a dynamical analog to a topological Anderson insulator, which is a disorder-induced Chern insulator. The second is a realization of disorder-induced topological phenomenon unique to a periodically driven system, a quantized non-adiabatic charge pump.