

Contribution ID: 61

Type: **not specified**

Floquet Insulators and Lattice Fermions

I discuss a recently discovered mathematical correspondence between the spectra of a naively discretized lattice fermion and that of a periodically driven (i.e., Floquet) quantum system and how it can be turned into an infrared equivalence between the two systems. The equivalence can be framed as a duality relation, allowing one to simulate a two-flavor discrete-time fermion theory on the lattice side, where the two flavors arise from time discretization, using a single-flavor fermion theory on the Floquet side. The demonstration establishes an equivalence between (i) the fermion content, (ii) the correlation functions, and consequently (iii) observables of the two theories in the infrared. I also show how interactions may be incorporated into this equivalence.

Authors: BRICENO, Raul; SEN, Srimoyee (Iowa State University); IADECOLA, Thomas; GYORY, William

Presenter: SEN, Srimoyee (Iowa State University)