CMP Seminar

In Person
BPS Room 1400

Dr. Christopher L. Baldwin
University Maryland

Monday September 12, 2022 @ 4:10 P.M.

Lieb-Robinson bounds and their application to disordered systems

The non-equilibrium dynamics of quantum many-body systems is a notoriously difficult topic of study, but one in which much progress is currently being made. Lieb-Robinson bounds have proven to be a valuable tool for obtaining both rigorous results and physical intuition. In this talk, after an introduction to the physical content of Lieb-Robinson bounds and a description of various applications, we discuss our recent work constructing bounds for systems with quenched disorder in 1D. We use the bounds to determine when weak links in a chain can modify the dynamical exponent (and calculate the correct dynamical exponent in such cases), and further show that even the concept of the Lieb-Robinson "light cone" must be revisited in the presence of disorder. We then close by discussing the implications of our results in numerous contexts.

https://msu.zoom.us/j/94503024073

Meeting ID: 945 0302 4073
Passcode: 311392

Host: Chong-Yu Ruan