

1154-81-1504 **Alvin Moon*** (asmooon@math.ucdavis.edu). *An energy-dependent Lieb-Robinson bound for quantum rotors.* Preliminary report.

Lieb-Robinson (LR) bounds represent a finite propagation velocity for information in quantum lattice systems. The spectral flow automorphism, defined in terms of the quasi-local Hastings generator, is an invaluable tool in the analysis of spectral properties of lattice models since it robustly relates the presence of a spectral gap to “quasi-adiabatic” evolution of spectral projectors. In this talk, we present a LR bound for the spectral flow automorphism from the quantum rotor model which depends on both spatial and energy distance of observables. (Received September 16, 2019)