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*On the Regime of Localized Excitations for Disordered Oscillator Systems.*

We study quantum oscillator lattice systems with disorder, in arbitrary dimension, requiring only partial localization of the associated effective one-particle Hamiltonian. This leads to a many-body localized regime of excited states with arbitrarily large energy density. We prove zero-velocity Lieb-Robinson bounds for the dynamics of Weyl operators as well as for position and momentum operators restricted to this regime. Dynamical localization is also shown in the form of quasi-locality of the time evolution of local Weyl operators and through exponential clustering of the dynamic correlations of states with localized excitations. (Received September 15, 2019)