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Energy Spreading in Strongly Nonlinear Lattices ARKADY PIKOVSKY, Department of Physics, University of Potsdam, Germany, MARIO MULANSKY, Max-Planck-Institute for Physics of Complex Systems, Germany — Dynamics of strongly nonlinear lattices one often describes as "sonic vacuum," as the linear phonons do not exist and the only propagating modes are nonlinear ones. In the presence of a disorder, nonlinear propagating waves do not exist, and the energy spreading, due to chaotic excitation of sites, is characterized by a slow subdiffusion. Using a nonlinear diffusion equation as a phenomenological model, we establish numerically scaling properties of the subdiffusion, for different parameters of nonlinearities.

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