Localization in Schrödinger Dynamics with Random Potentials

Michael Aizenman
Princeton University

A new method is introduced for the study of the Anderson localization in operators with random potential in the continuum (R^d). The results include exponential decay for the transition amplitudes throughout the localization regime, which can in principle be established through finite volume constructive criteria. The analysis utilizes analytic and probabilistic tools, and extends to the continuum the fractional moment method which was previously developed for discrete systems. (Work done in collaboration with A. Elgart, N. Naboko, J. Schenker, and G. Stolz.)