

SPECTRAL THEOREMS FOR SCHRODINGER  
OPERATOR ON GENERAL GRAPHS

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**Abstract**

The goal of this dissertation is to give the sufficient conditions for the absence of a.c.spectrum and the existence of the pure point (p.p.) spectrum for the deterministic or random Schrodinger operators on the general graphs. For the particular situations of “non-percolating” graphs like Sierpinski lattice and Quasi-1 dimensional tree, we’ll prove the Simon-Spencer type results and the localization theorem for Anderson Hamiltonian. Technical tools here are the extensions of the real-analytic methods presented for the 1D lattice and corresponding Schrodinger operators. The central moment is the cluster expansion of the resolvent with respect to appropriate partition of the general graph.