THE GENERAL NON-STATIONARY ANDERSON PARABOLIC MODEL WITH CORRELATED WHITE NOISE

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Abstract

This dissertation contains the analysis of the general lattice non-stationary Anderson parabolic model with correlated white noise. It starts form the brief description of known results about parabolic problem with local Laplacian and the detailed description of the general non-local Anderson model in the non-stationary random environment (Chapter 2). Chapter 3 is devoted to existence-uniqueness theorems for the parabolic model in the weighted Hilbert space, Feynman-Kac formula representation and moment equations. The chapter 4 contains the results on the first and second moments of the solution and the spectral properties of the Hamiltonian $\mathcal{H}_2$, providing the basic information on the phase transition of the model from the regular to intermittent structure, additional results concern the other spectral bifurcations of $\mathcal{H}_2$.