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# PARABOLIC ANDERSON MODEL WITH FINITE NUMBER OF MOVING CATALYSTS

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## Abstract

Parabolic Anderson model (PAM) is the Cauchy problem for the spatially discrete heat equation with random potential. We consider PAM with a time dependent potential given by a system of  $n$  independent random walks. We analyze the annealed Lyapunov exponents, i.e., the exponential growth rates of the successive moments of the solution of the PAM w.r.t. the random potential. We show that these exponents display an interesting dependence on the diffusion constant of the Laplace operator and the diffusion constant of the potential. In particular, we study the intermittent behavior of the system in terms of the annealed Lyapunov exponents, describing how the total mass of the solution concentrates at large times. (Joint work with F. Castell and G. Maillard)

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