

Random Walks on Dynamical Random Environments with Non-Uniform Mixing

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We study random walks on dynamical random environments in $1+1$ dimensions. Under a mild mixing assumption on the environment, we establish a law of large numbers for the random walk as well as a concentration inequality around its asymptotic speed. This mixing condition imposes a polynomial decay of covariances with sufficiently high exponent for events supported on space-time boxes separated in time. However, uniform mixing is not required. Examples of environments for which our methods apply include the contact process and Markovian environments with a positive spectral gap, such as the East model. This is a joint work with Augusto Teixeira and Oriane Blondel.