

RANDOM WALK ON ATTRACTIVE INTERACTING PARTICLE SYSTEMS

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Resumo/Abstract:

Consider random walk on the d -dimensional lattice whose transition probabilities are given by an underlying contact process. This is a primal example of random walk in *dynamic* random environment, which does not fall into the well-studied *cone-mixing* class. We derive a law of large number and derive bounds on large deviation probabilities for this model.

We obtain these results in broad generality for *any* attractive two-state dynamics when started from a trivial measure. For the contact process, a quantified version of the shape theorem allows to carry over the results to non-trivial shift-invariant and ergodic starting measures. Further properties about the speed are derived.

Joint work with Stein Bethuelsen (Leiden) and Rob van den Berg (Amsterdam).