
XINYI LI, ETH Zurich

A lower bound for disconnection by simple random walk

We consider simple random walk on \mathbb{Z}^d , $d \geq 3$. Motivated by the previous work of A.-S. Sznitman and the speaker, we investigate the asymptotic behaviour of the probability that a large body gets disconnected from infinity by the set of points visited by a simple random walk. We derive asymptotic lower bounds that bring into play random interacements. Although open at the moment, some of the lower bounds we obtain possibly match the asymptotic upper bounds recently obtained in arXiv:1412.3960. This potentially yields special significance to the tilted walks that we use in this work, and to the strategy that we employ to implement disconnection.