

[Li, Xinyi](#); [Sznitman, Alain-Sol](#)

**A lower bound for disconnection by random interlacements.** (English) Zbl 1355.60035  
[Electron. J. Probab.](#) 19, Paper No. 17, 26 p. (2014).

Summary: We consider the vacant set of random interlacements on  $\mathbb{Z}^d$ , with  $d$  bigger or equal to 3, in the percolative regime. Motivated by the large deviation principles obtained in our recent work [[Probab. Theory Relat. Fields](#) 161, No. 1–2, 309–350 (2015; [Zbl 1314.60078](#))], we investigate the asymptotic behavior of the probability that a large body gets disconnected from infinity by the random interlacements. We derive an asymptotic lower bound, which brings into play tilted interlacements, and relates the problem to some of the large deviations of the occupation-time profile considered in [[loc. cit.](#)].

**MSC:**

[60F10](#) Large deviations

[60K35](#) Interacting random processes; statistical mechanics type models; percolation theory

[60J27](#) Continuous-time Markov processes on discrete state spaces

Cited in **8** Documents

**Keywords:**

[random interlacements](#); [disconnection](#); [large deviations](#)

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