

**Benjamini, Itai; Tassion, Vincent**

**Homogenization via sprinkling.** (English. French summary) [Zbl 1370.60186](#)  
*Ann. Inst. Henri Poincaré, Probab. Stat.* 53, No. 2, 997-1005 (2017).

Summary: We show that a superposition of an  $\varepsilon$ -Bernoulli bond percolation and any everywhere percolating subgraph of  $\mathbb{Z}^d$ ,  $d \geq 2$ , results in a connected subgraph, which after a renormalization dominates supercritical Bernoulli percolation. This result, which confirms a conjecture from [the first author et al., *J. Math. Phys.* 41, No. 3, 1294–1297 (2000; [Zbl 0977.82021](#))], is mainly motivated by obtaining finite volume characterizations of uniqueness for general percolation processes.

**MSC:**

[60K35](#) Interacting random processes; statistical mechanics type models; percolation theory  
[05C80](#) Random graphs (graph-theoretic aspects)

Cited in **1** Document

**Keywords:**

percolation; sprinkling; homogenization; finite-size criterion; random geometry

**Full Text:** [DOI](#) [Euclid](#) [arXiv](#)