

[van der Hofstad, Remco; den Hollander, Frank; Slade, Gordon](#)

Construction of the Incipient Infinite cluster for spread-out oriented percolation above $4 + 1$ dimensions. (English) [Zbl 1013.82017](#)

[Commun. Math. Phys.](#) 231, No. 3, 435-461 (2002).

One constructs the incipient infinite cluster measure (IIC) for sufficiently spread-out oriented percolation on $\mathbb{Z}^d \times \mathbb{Z}_+$. The main results related to the existence of IIC are stated in the introduction and the proofs are given in the remainder of the paper. Two schemes of construction are proposed. The proof techniques refer to some previous results in linking critical oriented percolation and super-Brownian motion, and one derives some properties of the moment measures of the canonical measure of super-Brownian motion. One analyzes the asymptotic behaviour of the size of the level set of the cluster of the origin, and the dimension of the cluster of the origin under the limit of the probability measure.

Reviewer: [Guy Jumarie \(Montreal\)](#)

MSC:

[82C43](#) Time-dependent percolation in statistical mechanics

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

Cited in **13** Documents

Keywords:

[incipient infinite cluster measure; spread-out oriented percolation; super-Brownian motion](#)

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