

**Bramson, M.; Liggett, T. M.**

**Exclusion processes in higher dimensions: stationary measures and convergence.** (English)

Zbl 1099.60067

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The authors consider the exclusion process on  $Z^d$  with  $d > 1$ . Firstly, one gives a necessary and sufficient condition for a product measure to be stationary for the process. One applies then this condition to the case of a translation system on  $Z^d$ . This allows to construct many examples of stationary product measures that are neither homogeneous nor reversible. Examples for a random walk on a homogeneous tree and on a rooted tree are given. Then the authors study stationary measures which are invariant under translations in all directions orthogonal to a fixed nonzero  $v \in Z^d$  and prove a number of convergence results for the measure of the exclusion process. Applications of hydrodynamical results are used to obtain explicit convergence results. Some open problems are also stated.

Reviewer: Mihai Gradinaru (Nancy)

**MSC:**

**60K35** Interacting random processes; statistical mechanics type models; percolation theory

Cited in 4 Documents

**Keywords:**

hydrodynamics

**Full Text:** DOI arXiv

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