

Liggett, Thomas M.

Reversible growth models on symmetric sets. (English) Zbl 0653.60094

Probabilistic methods in mathematical physics, Proc. Taniguchi Int. Symp., Katata and Kyoto/Jap. 1985, 275-301 (1987).

[For the entire collection see [Zbl 0633.00021](#).]

In Probab. Theory, Relat. Fields 74, 505-528 (1987; [Zbl 0589.60081](#)), the author expressed the survival probability of reversible growth models on \mathbb{Z} by a variational formula derived through an application of the Dirichlet principle. The present paper generalizes this result to general symmetric sets, e.g. \mathbb{Z}^d . It gives upper and lower bounds for the survival probability in order to calculate the critical value and exponent of a birth rate parameter λ .

The models show that the one-dimensional situation can be completely different from higher-dimensional ones.

Reviewer: [Th.Eisele](#)

MSC:

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

[60J80](#) Branching processes (Galton-Watson, birth-and-death, etc.)

Cited in **2** Documents

Keywords:

[survival probability](#); [growth models](#); [birth rate parameter](#)