

[Liggett, Thomas M.](#)

Spatial stochastic growth models - survival and critical behavior. (English) Zbl 0667.92012
Proc. Int. Congr. Math., Berkeley/Calif. 1986, Vol. 2, 1032-1041 (1987).

[For the entire collection see [Zbl 0657.00005](#).]

This is an overview of results concerning a class of spatial stochastic processes modelling spatial epidemics. The infected cluster grows according to certain rules, and meanwhile each infective becomes well at rate 1. Such a process is said to 'die out' if, starting from a single infective, only finitely many points are ultimately infected with probability one.

In the first part of this paper, conditions are given which are sufficient for the survival and extinction of such a process. More complete results may be obtained for processes which are reversible in time, and this is the topic of the second part of the paper. Explicit bounds for the survival probability are established in this case.

Reviewer: [G.Grimmett](#)

MSC:

[92D25](#) Population dynamics (general)

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

Cited in 1 Document

Keywords:

[infinite particle systems](#); [growth processes](#); [time-reversible processes](#); [overview](#); [spatial stochastic processes](#); [spatial epidemics](#); [extinction](#); [Explicit bounds for the survival probability](#)