

## Abstract

The contact process is a simple model of an epidemic spreading process. It shows a phase transition into an absorbing state which belongs to the directed percolation universality class. We extend the process by diffusion and study how the diffusion rate influences scaling behaviour and the percolation threshold. Using a field theoretic description we show that scaling exponents are independent from diffusion and calculate the critical control parameter for large diffusion rates. We confirmed our analytical results with numerical data from monte carlo simulations.