



The University of Chicago
Department of Statistics

SECOND YEAR PHD PRESENTATION

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Department of Statistics
The University of Chicago

Contact Process on Trees

WEDNESDAY, April 20, 2011, at 4:15 PM

110 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

In this talk we will introduce contact process on a graph, which is a continuous time Markov process. The process is usually interpreted as a model for the spread of an infection. There is an infection rate parameter which determines the behavior of the process. On integer lattice there is a critical value for the parameter; in the case of subcritical with probability 1 the infection dies out eventually; in the case of supercritical with positive probability the infection survives forever. However this is not true for regular trees. There are 2 critical values for contact processes on regular trees and therefore 3 phases: extinction, weak survival and strong survival. The existence of 3 phases instead of 2 is a striking fact. We will see what these phases stand for in this talk.

Information about building access for persons with disabilities may be obtained in advance by calling Sandra Romero at 773.702-0541 or by email (sandra@galton.uchicago.edu).