Critical Branching Random Walks and Spatial Epidemics

THURSDAY, November 1, 2007 at 3:30 PM
110 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

The first part of this talk is about critical nearest neighbor branching random walk on \( \mathbb{Z}^d (d \geq 2) \). We will discuss some results about the maximal number of particles at a single site, the number of particles on a ‘typical’ occupied site and the number of occupied sites, all at time \( m \in \mathbb{N} \) conditional on survival to then. This part is based on the paper available at http://www.arxiv.org/abs/0707.3829v1.

The second part is about spatial epidemics, more specifically, the SIS and SIR model. We will talk about their survival probabilities, ranges etc. This part is based on ongoing projects.