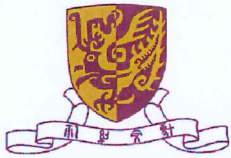


Revised

For Favour of Posting



Department of Mathematics
The Chinese University of Hong Kong

數學系
香港中文大學

Phone: (852) 3943 7988 • Fax: (852) 2603 5154 • Email: dept@math.cuhk.edu.hk (Math. Dept.)
Room 220, Lady Shaw Building, The Chinese University of Hong Kong, Shatin, N.T., Hong Kong

Seminar

The size of the boundary in the Eden model

Mr. Wai-Kit LAM
Indiana University

Abstract

The Eden model, a special case of first-passage percolation, is a stochastic growth model in which an infection that initially occupies the origin of \mathbb{Z}^d spreads to neighboring sites at rate 1. Infected sites are colonized permanently; that is, an infected site never heals. It is known that at time t , the infection occupies a set $B(t)$ of vertices with volume of order t^d , and the rescaled set $B(t)/t$ converges to a convex, compact limiting shape. In joint work with M. Damron and J. Hanson, we partially answer a question of K. Burdzy, concerning the order of the size of the boundary of $B(t)$. We show that, in various senses, the boundary is relatively smooth, being typically of order t^{d-1} . This is in contrast to the fractal behavior of interfaces characteristic of percolation models.

Date: 4 May 2017 (Thursday)

Time: 4:00pm – 5:00pm

Venue: G36, Lady Shaw Building, The Chinese University of Hong Kong

All are Welcome