

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Conformal Invariance of the Exploration Path in 2-D Critical Bond Percolation in the Square Lattice

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Abstract

We present the proof of the convergence of the critical bond percolation exploration process on the square lattice to the trace of SLE_6 . This is an important conjecture in mathematical physics and probability. The case of critical site percolation on the hexagonal lattice was established in the seminal work of Smirnov via proving Cardy's formula. However our proof uses a series of transformations that allow us to apply the convergence in the site percolation case on the hexagonal lattice to obtain certain estimates that is enough for us to prove the convergence in the case of bond percolation on the square lattice.

Date: December 7, 2012 (Friday)

Time: 3:30 – 4:30pm

Place: Room 210, Run Run Shaw Bldg., HKU

All are welcome