
THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Geometric Functional Analysis and Probability Seminar

Room 290C ,Ziskind Building
on Thursday, Jun 16, 2016at 11:15

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Can one hear the shape of a random walk?

Abstract:

We consider a Gibbs distribution over random walk paths on the square lattice, proportional to a random weight of the path's boundary. We show that in the zero temperature limit, the paths condensate around an asymptotic shape. This limit shape is characterized as the minimizer of the functional, mapping open connected subsets of the plane to the sum of their principle eigenvalue and perimeter (with respect to the first passage percolation norm). A prime novel feature of this limit shape is that it is not in the class of Wulff shapes. Joint work with Marek Biskup.