



Mathematics and CS Seminar

Expected hitting time estimates on finite graphs

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Host: M. Beiglböck, N. Berestycki, L. Erdős, J. Maas, F. Toninelli, E. Schertzer

The expected hitting time from vertex a to vertex b , $H(a,b)$, is the expected value of the time it takes a random walk starting at a to reach b . In this talk, we shall discuss estimates for $H(a,b)$ when the distance between a and b is comparable to the diameter of the graph, and the graph satisfies a Harnack condition. We show that, in such cases, $H(a,b)$ can be estimated using a formula in terms of the volumes of balls around b . We give an outline of the proof using Green functions and heat kernel estimates. Using this result, we can then estimate $H(a,b)$ on various graphs, such as rectangular tori, some convex traces on the integer lattice, and fractal graphs. Joint work with Laurent Saloff-Coste.

Monday, January 22, 2024 05:00pm - 06:00pm

Mondi 2 (I01.01.008), Central Building



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