

COLLOQUIUM

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Intersections of Random Walks: Large Deviations

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A405 Wells Hall

10:20 a.m. - 11:10 a.m.

Refreshments: 10:00 a.m.

Abstract

The study of sample path intersections is partially motivated by the needs in mathematical physics. In this talk I will try to describe the large deviations for the self-intersection local times, mutual intersection local times, ranges and the intersection of ranges generated by random walks and Brownian motions. In particular, I will show that the critical dimension for such large deviations is 4.

Some unsolved problems and conjectures will be given. Part of the talk is based on some collaborative works with Richard Bass, Wenbo Li, Peter Mörters and Jay Rosen.

Key words and phrases: Random walk, Brownian motion, intersection local time, range.

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