

Lecture 4.2 (04:50-05:15)

How do memory and self-excitation affect random walks?

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In this talk, we shall discuss how memory and self-excitation affect the behaviours of random processes and especially, random walks. Various models of random walks with memory/self-excitation will be introduced and their asymptotic properties will be investigated. In particular, we shall observe a sharp phase transition from diffusive to super-diffusive behaviours leading to models exhibiting anomalous diffusion, which can be useful in many situations.

Based on a joint work with Krishanu Maulik and Tamojit Sadhukhan