





## Library Indian Institute of Science Education and Research Mohali



## DSpace@IISERMohali / Thesis & Dissertation / Master of Science / MS-19

Please use this identifier to cite or link to this item: http://hdl.handle.net/123456789/5641

Title: The Elephant Random Walk

Authors: Mulay, Vinita Mukund

Keywords: Elephant Random Walk

Urn Models Limit Theorems

Recurrence and Transience

Issue Date: May-2024

Publisher: IISER Mohali

Abstract: The Elephant Random Walk (ERW) is a random walk on Z d , d ≥ 1, with history dependent steps. Due to this history dependence, the walk exhibits certain fascinating properties that are otherwise not present in general random walks. For instance, a phase transition from a diffusive to a superdiffusive regime is observed. We explore the asymptotic properties of ERW and provide alternative proofs of some results. Furthermore, we introduce and study a variation of the ERW with biased memory. We prove a Strong Law and a Central Limit Theorem for such a process for certain parameters. In this ongoing work, we want to

examine how such a biased memory affects the behaviour of the walk and how this behaviour differs from a classical ERW.

Description: Under Embargo Period

URI: http://hdl.handle.net/123456789/5641

Appears in MS-19

Collections:

## Files in This Item:

File	Description	Size	Format	
embargo period.pdf		6.04 kB	Adobe PDF	View/Open

Show full item record

di

Items in DSpace are protected by copyright, with all rights reserved, unless otherwise indicated.



Customized & Implemented by - Jivesna Tech