

A brief discussion on Brownian motion and related processes with applications

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Abstract

This lecture series explores the connection between probability theory and practical applications, with a focus on Brownian motion and related processes. In three sessions, we will cover the fundamental aspects of Brownian motion, including local time and excursion theory, and discuss how these concepts are applied in the field of finance, drawing on the insights of Rama Cont et al. The aim is to provide participants with a basic understanding of Brownian motion and demonstrate its versatility and importance in various disciplines.