

NPTEL Video Lecture Topic List - Created by LinuXpert Systems, Chennai

NPTEL Video Course - Physics - Physical Applications of Stochastic Processes

Subject Co-ordinator - Prof. V. Balakrishnan

Co-ordinating Institute - IIT - Madras

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Discrete probability distributions - Part 1
Lecture 2 - Discrete probability distributions - Part 2
Lecture 3 - Continuous random variables
Lecture 4 - Central Limit Theorem
Lecture 5 - Stable distributions
Lecture 6 - Stochastic processes
Lecture 7 - Markov processes - Part 1
Lecture 8 - Markov processes - Part 2
Lecture 9 - Markov processes - Part 3
Lecture 10 - Birth-and-death processes
Lecture 11 - Continuous Markov processes
Lecture 12 - Langevin dynamics - Part 1
Lecture 13 - Langevin dynamics - Part 2
Lecture 14 - Langevin dynamics - Part 3
Lecture 15 - Langevin dynamics - Part 4
Lecture 16 - Itô and Fokker-Planck equations for diffusion processes
Lecture 17 - Level-crossing statistics of a continuous random process
Lecture 18 - Diffusion of a charged particle in a magnetic field
Lecture 19 - Power spectrum of noise
Lecture 20 - Elements of linear response theory
Lecture 21 - Random pulse sequences
Lecture 22 - Dichotomous diffusion
Lecture 23 - First passage time - Part 1
Lecture 24 - First passage time - Part 2
Lecture 25 - First passage and recurrence in Markov chains
Lecture 26 - Recurrent and transient random walks
Lecture 27 - Non-Markovian random walks
Lecture 28 - Statistical aspects of deterministic dynamics - Part 1
Lecture 29 - Statistical aspects of deterministic dynamics - Part 2

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