1. Record Nr. UNINA9910768190803321

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Titolo	Lectures on probability theory and statistics : Ecole d'ete de probabilites de Saint-Flour XXXIII - 2003 / / Amir Dembo, Tadahisa Funaki ; editor, Jean Picard
Pubbl/distr/stampa	Berlin, Heidelberg : , : Springer, , [2005] ©2005
ISBN	3-540-31537-3
Edizione	[1st ed. 2005.]
Descrizione fisica	1 online resource (VIII, 286 p.)
Collana	Lecture Notes in Mathematics ; ; 1869
Disciplina	519.24
Soggetti	Distribution (Probability theory)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di contenuto	Intro -- Favorite Points, Cover Times and Fractals -- Amir Dembo -- 1 Overview -- 2 Cover Time for Markov Chains -- 3 Discrete Limsup Random Fractals -- 4 Multi-Scale Truncated Second Moment -- 5 From Trees to Walks Via Brownian Motion -- 6 Kac's Moment Formula and Ciesielski-Taylor Identities -- References -- Stochastic Interface Models -- Tadahisa Funaki -- 1 Introduction -- 2 bold0mu mumu equationbold0mu mumu equation Interface Model -- 3 Gaussian Equilibrium Systems -- 4 Random Walk Representation and Fundamental Inequalities -- 5 Surface Tension -- 6 Large Deviation and Concentration Properties -- 7 Entropic Repulsion, Pinning and Wetting Transition -- 8 Central Limit Theorem -- 9 Characterization of bold0mu mumu equationbold0mu mumu equation-Gibbs Measures -- 10 Hydrodynamic Limit -- 11 Equilibrium Fluctuation -- 12 Dynamic Large Deviation -- 13 Hydrodynamic Limit on a Wall -- 14 Equilibrium Fluctuation on a Wall and Entropic Repulsion -- 15 Dynamics in Two Media and Pinning Dynamics on a Wall -- 16 Other Dynamic Models -- References.
Sommario/riassunto	This volume contains two of the three lectures that were given at the 33rd Probability Summer School in Saint-Flour (July 6-23, 2003). Amir Dembo’s course is devoted to recent studies of the fractal nature of random sets, focusing on some fine properties of the sample path of random walk and Brownian motion. In particular, the cover time for

Markov chains, the dimension of discrete limsup random fractals, the multi-scale truncated second moment and the Ciesielski-Taylor identities are explored. Tadahisa Funaki’s course reviews recent developments of the mathematical theory on stochastic interface models, mostly on the so-called \nabla \varphi interface model. The results are formulated as classical limit theorems in probability theory, and the text serves with good applications of basic probability techniques.