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Titolo	Random Walks, Random Fields, and Disordered Systems // by Anton Bovier, David Brydges, Amin Coja-Oghlan, Dmitry Ioffe, Gregory F. Lawler ; edited by Marek Biskup, Jiří erný, Roman Kotecký
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Nota di contenuto	Anton Bovier: From spin glasses to branching Brownian motion – and back? -- David Brydges: The Renormalization Group and Self-AvoidingWalk -- Amin Coja-Oghlan: Phase Transitions in Discrete Structures -- Dmitry Ioffe: Multidimensional Random Polymers : A Renewal Approach -- Gregory F. Lawler and Jacob Perlman: Loop measures and the Gaussian free field.
Sommario/riassunto	Focusing on the mathematics that lies at the intersection of probability theory, statistical physics, combinatorics and computer science, this volume collects together lecture notes on recent developments in the area. The common ground of these subjects is perhaps best described by the three terms in the title: Random Walks, Random Fields and Disordered Systems. The specific topics covered include a study of

Branching Brownian Motion from the perspective of disordered (spin-glass) systems, a detailed analysis of weakly self-avoiding random walks in four spatial dimensions via methods of field theory and the renormalization group, a study of phase transitions in disordered discrete structures using a rigorous version of the cavity method, a survey of recent work on interacting polymers in the ballistic regime and, finally, a treatise on two-dimensional loop-soup models and their connection to conformally invariant systems and the Gaussian Free Field. The notes are aimed at early graduate students with a modest background in probability and mathematical physics, although they could also be enjoyed by seasoned researchers interested in learning about recent advances in the above fields.
