1.	Record Nr.	UNINA9910300158103321
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	Titolo	An introduction to random interlacements / / by Alexander Drewitz, Balázs Ráth, Artëm Sapozhnikov
	Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
	ISBN	3-319-05852-5
	Edizione	[1st ed. 2014.]
	Descrizione fisica	1 online resource (124 p.)
	Collana	SpringerBriefs in Mathematics, , 2191-8198
	Disciplina	519.2
	Soggetti	Probabilities
		Operations research
		Management science
		Applied mathematics
		Engineering mathematics
		Probability Theory and Stochastic Processes
		Operations Research, Management Science
		Applications of Mathematics
	Lingua di pubblicazione	Inglese
	Formato	Materiale a stampa
	Livello bibliografico	Monografia
	Note generali	Description based upon print version of record.
	Nota di bibliografia	Includes bibliographical references and index.
	Nota di contenuto	Random Walk, Green Function, Equilibrium Measure -- Random Interlacements: First Definition and Basic Properties.- Random Walk on the Torus and Random Interlacements.- Poisson Point Processes. - Random Interlacements Point Process.- Percolation of the Vacant Set. - Source of Correlations and Decorrelation via Coupling.- Decoupling Inequalities -- Phase Transition of Vu -- Coupling of Point Measures of Excursions.
	Sommario/riassunto	This book gives a self-contained introduction to the theory of random interlacements. The intended reader of the book is a graduate student with a background in probability theory who wants to learn about the fundamental results and methods of this rapidly emerging field of research. The model was introduced by Sznitman in 2007 in order to describe the local picture left by the trace of a random walk on a large discrete torus when it runs up to times proportional to the volume of the torus. Random interlacements is a new percolation model on the d-

dimensional lattice. The main results covered by the book include the full proof of the local convergence of random walk trace on the torus to random interlacements and the full proof of the percolation phase transition of the vacant set of random interlacements in all dimensions. The reader will become familiar with the techniques relevant to working with the underlying Poisson Process and the method of multi-scale renormalization, which helps in overcoming the challenges posed by the long-range correlations present in the model. The aim is to engage the reader in the world of random interlacements by means of detailed explanations, exercises and heuristics. Each chapter ends with short survey of related results with up-to date pointers to the literature.