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Disciplina	510
Soggetti	Probabilities Mathematical physics Physics Probability Theory and Stochastic Processes Mathematical Applications in the Physical Sciences Mathematical Methods in Physics
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	1 Background, model and questions -- 2 Tools and concepts -- 3 Moment asymptotics for the total mass -- 4 Some proof techniques -- 5 Almost sure asymptotics for the total mass -- 6 Strong intermittency -- 7 Refined questions -- 8 Time-dependent potentials.
Sommario/riassunto	This is a comprehensive survey on the research on the parabolic Anderson model – the heat equation with random potential or the random walk in random potential – of the years 1990 – 2015. The investigation of this model requires a combination of tools from probability (large deviations, extreme-value theory, e.g.) and analysis (spectral theory for the Laplace operator with potential, variational analysis, e.g.). We explain the background, the applications, the questions and the connections with other models and formulate the most relevant results on the long-time behavior of the solution, like quenched and annealed asymptotics for the total mass, intermittency, confinement and concentration properties and mass flow. Furthermore, we explain the most successful proof methods and give a list of open research problems. Proofs are not detailed, but concisely outlined and

commented; the formulations of some theorems are slightly simplified for better comprehension.

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