

1. Record Nr.	UNISALENTO991003554969707536
Autore	Barbu, Viorel
Titolo	Stochastic Porous Media Equations [e-book] / by Viorel Barbu, Giuseppe Da Prato, Michael Röckner
Pubbl/distr/stampa	Cham : Springer International Publishing, 2016
ISBN	9783319410685
Descrizione fisica	1 online resource (ix, 202 p.)
Collana	Lecture Notes in Mathematics, 0075-8434 ; 2163
Classificazione	AMS 60H15 AMS 35K57 AMS 35R60 AMS 76S05 LC QA274-274.9
Altri autori (Persone)	Da Prato, Giuseppeauthor Rockner, Michael
Disciplina	519.2
Soggetti	Differential equations, Partial Probabilities Fluids
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index
Nota di contenuto	Foreword ; Preface ; Introduction ; Equations with Lipschitz nonlinearities ; Equations with maximal monotone nonlinearities ; Variational approach to stochastic porous media equations ; L1-based approach to existence theory for stochastic porous media equations ; The stochastic porous media equations in \mathbb{R}^d ; Transition semigroups and ergodicity of invariant measures ; Kolmogorov equations ; A Two analytical inequalities ; Bibliography ; Glossary ; Translator's note ; Index
Sommario/riassunto	Focusing on stochastic porous media equations, this book places an emphasis on existence theorems, asymptotic behavior and ergodic properties of the associated transition semigroup. Stochastic perturbations of the porous media equation have previously been considered by physicists, but rigorous mathematical existence results have only recently been found. The porous media equation models a number of different physical phenomena, including the flow of an ideal gas and the diffusion of a compressible fluid through porous media,

and also thermal propagation in plasma and plasma radiation. Another important application is to a model of the standard self-organized criticality process, called the "sand-pile model" or the "Bak-Tang-Wiesenfeld model". The book will be of interest to PhD students and researchers in mathematics, physics and biology
