

1. Record Nr.	UNINA9910461568703321
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Titolo	Symmetric Markov processes, time change, and boundary theory [[electronic resource] /] / Zhen-Qing Chen, Masatoshi Fukushima
Pubbl/distr/stampa	Princeton, N.J., : Princeton University Press, 2011
ISBN	1-283-29094-4 9786613290946
Edizione	[Course Book]
Descrizione fisica	1 online resource (496 p.)
Collana	London Mathematical Society monographs ; ; v. 35
Altri autori (Persone)	FukushimaMasatoshi
Disciplina	519.233
Soggetti	Markov processes Boundary value problems Dirichlet problem Electronic books.
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	Frontmatter -- Contents -- Notation -- Preface -- Chapter One. Symmetric Markovian Semigroups and Dirichlet Forms -- Chapter Two. Basic Properties and Examples of Dirichlet Forms -- Chapter Three. Symmetric Hunt Processes and Regular Dirichlet Forms -- Chapter Four. Additive Functionals of Symmetric Markov Processes -- Chapter Five. Time Changes of Symmetric Markov Processes -- Chapter Six. Reflected Dirichlet Spaces -- Chapter Seven. Boundary Theory for Symmetric Markov Processes -- Appendix A. Essentials of Markov Processes -- Appendix B. Solutions To Exercises -- Notes -- Bibliography -- Catalogue Of Some Useful Theorems -- Index
Sommario/riassunto	This book gives a comprehensive and self-contained introduction to the theory of symmetric Markov processes and symmetric quasi-regular Dirichlet forms. In a detailed and accessible manner, Zhen-Qing Chen and Masatoshi Fukushima cover the essential elements and applications of the theory of symmetric Markov processes, including recurrence/transience criteria, probabilistic potential theory, additive functional theory, and time change theory. The authors develop the theory in a general framework of symmetric quasi-regular Dirichlet forms in a unified manner with that of regular Dirichlet forms,

emphasizing the role of extended Dirichlet spaces and the rich interplay between the probabilistic and analytic aspects of the theory. Chen and Fukushima then address the latest advances in the theory, presented here for the first time in any book. Topics include the characterization of time-changed Markov processes in terms of Douglas integrals and a systematic account of reflected Dirichlet spaces, and the important roles such advances play in the boundary theory of symmetric Markov processes. This volume is an ideal resource for researchers and practitioners, and can also serve as a textbook for advanced graduate students. It includes examples, appendixes, and exercises with solutions.
