

1. Record Nr.	UNINA9910300153303321
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Titolo	Elliptic Boundary Value Problems and Construction of Lp-Strong Feller Processes with Singular Drift and Reflection // by Benedict Baur
Pubbl/distr/stampa	Wiesbaden : , : Springer Fachmedien Wiesbaden : , : Imprint : Springer Spektrum, , 2014
ISBN	3-658-05829-3
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (203 p.)
Disciplina	515 515.353 515/.353
Soggetti	Mathematical analysis Analysis (Mathematics) Probabilities Mathematical physics Analysis Probability Theory and Stochastic Processes Mathematical 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	Introduction -- Construction of Lp-Strong Feller Processes -- Elliptic Regularity up to the Boundary -- Construction of Elliptic Diffusions -- Applications -- Construction of the Local Time and Skorokhod Decomposition -- Appendix.
Sommario/riassunto	Benedict Baur presents modern functional analytic methods for construction and analysis of Feller processes in general and diffusion processes in particular. Topics covered are: Construction of Lp-strong Feller processes using Dirichlet form methods, regularity for solutions of elliptic boundary value problems, construction of elliptic diffusions with singular drift and reflection, Skorokhod decomposition and applications to Mathematical Physics like finite particle systems with singular interaction. Emphasize is placed on the handling of singular drift coefficients, as well as on the discussion of pointwise and pathwise properties of the constructed processes rather than just the

quasi-everywhere properties commonly known from the general Dirichlet form theory. Contents Construction of L_p -Strong Feller Processes Elliptic Boundary Value Problems Skorokhod Decomposition for Reflected Diffusions with Singular Drift Particle Systems with singular interaction Target Groups Graduate and PhD students, researchers of Mathematics in the field (Functional) Analysis, Stochastics, Partial Differential Equations and Mathematical Physics The Author Benedict Baur has done his doctor's degree at the University of Kaiserslautern in topics on Stochastics and Functional Analysis. .
