

1. Record Nr.	UNISA996485661203316
Autore	Lee Haesung
Titolo	Analytic theory of Ito-stochastic differential equations with non-smooth coefficients // Haesung Lee, Wilhelm Stannat, Gerald Trutnau
Pubbl/distr/stampa	Singapore : , : Springer, , [2022] ©2022
ISBN	981-19-3831-8
Descrizione fisica	1 online resource (139 pages)
Collana	SpringerBriefs in probability and mathematical statistics
Disciplina	519.2
Soggetti	Stochastic differential equations Equacions diferencials estocàstiques Llibres electrònics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Intro -- Acknowledgments -- Contents -- Notations and Conventions -- 1 Introduction -- 1.1 Methods and Results -- 1.2 Organization of the Book -- 2 The Abstract Cauchy Problem in $L_r$ -Spaces with Weights -- 2.1 The Abstract Setting, Existence and Uniqueness -- 2.1.1 Framework and Basic Notations -- 2.1.2 Existence of Maximal Extensions on $R^d$ -- 2.1.2.1 Existence of Maximal Extensions on Relatively Compact Subsets $V \subset R^d$ -- 2.1.2.2 Existence of Maximal Extensions on the Full Domain $R^d$ -- 2.1.3 Uniqueness of Maximal Extensions on $R^d$ -- 2.1.3.1 Uniqueness of $(L, D(L)0, b)$ -- 2.1.3.2 Uniqueness of $(L, C_0(R^d))$ -- 2.2 Existence and Regularity of Densities to Infinitesimally Invariant Measures -- 2.2.1 Class of Admissible Coefficients and the Main Theorem -- 2.2.2 Proofs -- 2.2.3 Discussion -- 2.3 Regular Solutions to the Abstract Cauchy Problem -- 2.4 Irreducibility of Solutions to the Abstract Cauchy Problem -- 2.5 Comments and References to Related Literature -- 3 Stochastic Differential Equations -- 3.1 Existence -- 3.1.1 Regular Solutions to the Abstract Cauchy Problem as Transition Functions -- 3.1.2 Construction of a Hunt Process -- 3.1.3 Krylov-type Estimate -- 3.1.4 Identification of the Stochastic Differential Equation -- 3.2 Global Properties -- 3.2.1 Non-explosion Results and Moment Inequalities -- 3.2.2 Transience and Recurrence -- 3.2.3 Long Time Behavior:

Ergodicity, Existence and Uniqueness of Invariant Measures,  
Examples/Counterexamples -- 3.3 Uniqueness -- 3.3.1 Pathwise  
Uniqueness and Strong Solutions -- 3.3.2 Uniqueness in Law (Via L1-  
Uniqueness) -- 3.4 Comments and References to Related Literature --  
4 Conclusion and Outlook -- References -- Index.

---