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	Nota di contenuto	Preface -- Notations and Abbreviations -- Introduction and Motivating Examples -- Mathematical machinery -- Yosida Approximations of Stochastic Differential Equations -- Yosida Approximations of Stochastic Differential Equations with Jumps -- Applications to Stochastic Stability -- Applications to Stochastic Optimal Control -- Appendix A: Nuclear and Hilbert-Schmidt Operators -- Appendix B: Multivalued Maps -- Appendix C: Maximal Monotone Operators -- Appendix D: The Duality Mapping -- Appendix E: Random Multivalued Operators -- Bibliographical Notes and Remarks -- Bibliography.
	Sommario/riassunto	This research monograph brings together, for the first time, the varied literature on Yosida approximations of stochastic differential equations (SDEs) in infinite dimensions and their applications into a single cohesive work. The author provides a clear and systematic introduction to the Yosida approximation method and justifies its power by presenting its applications in some practical topics such as stochastic stability and stochastic optimal control. The theory assimilated spans more than 35 years of mathematics, but is developed slowly and

methodically in digestible pieces. The book begins with a motivational chapter that introduces the reader to several different models that play recurring roles throughout the book as the theory is unfolded, and invites readers from different disciplines to see immediately that the effort required to work through the theory that follows is worthwhile. From there, the author presents the necessary prerequisite material, and then launches the reader into the main discussion of the monograph, namely, Yosida approximations of SDEs, Yosida approximations of SDEs with Poisson jumps, and their applications. Most of the results considered in the main chapters appear for the first time in a book form, and contain illustrative examples on stochastic partial differential equations. The key steps are included in all proofs, especially the various estimates, which help the reader to get a true feel for the theory of Yosida approximations and their use. This work is intended for researchers and graduate students in mathematics specializing in probability theory and will appeal to numerical analysts, engineers, physicists and practitioners in finance who want to apply the theory of stochastic evolution equations. Since the approach is based mainly in semigroup theory, it is amenable to a wide audience including non-specialists in stochastic processes. .