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Nota di contenuto	1 Introduction -- Part I: Mathematical Tools -- 2 Lévy processes on Hilbert spaces -- 3 The Filipovi space and operators -- 4 Stochastic integration and partial differential equations -- Part II: Modelling the Forward Price Dynamics and Derivatives Pricing -- 5 Spot models and forward pricing -- 6 Heath–Jarrow–Morton type models -- 7 Pricing of commodity and energy options -- Appendix A: Collection of some fundamental properties of the Filipovi space.
Sommario/riassunto	This monograph presents a theory for random field models in time and space, viewed as stochastic processes with values in a Hilbert space, to model the stochastic dynamics of forward and futures prices in energy, power, and commodity markets. In this book, the well-known Heath–Jarrow–Morton approach from interest rate theory is adopted and

extended into an infinite-dimensional framework, allowing for flexible modeling of price stochasticity across time and along the term structure curve. Various models are introduced based on stochastic partial differential equations with infinite-dimensional Lévy processes as noise drivers, emphasizing random fields described by low-dimensional parametric covariance functions instead of classical high-dimensional factor models. The Filipovi space, a separable Hilbert space of Sobolev type, is found to be a convenient state space for the dynamics of forward and futures term structures. The monograph provides a classification of important operators in this space, covering covariance operators and the stochastic modeling of volatility term structures, including the Samuelson effect. Fourier methods are employed to price many derivatives of interest in energy, power, and commodity markets, and sensitivity 'delta' expressions can be derived. Additionally, the monograph covers forward curve smoothing, the connection between forwards with fixed delivery and delivery period, as well as the classical theory of forward and futures pricing. This monograph will appeal to researchers and graduate students interested in mathematical finance and stochastic analysis applied in the challenging markets of energy, power, and commodities. Practitioners seeking sophisticated yet flexible and analytically tractable risk models will also find it valuable.