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Titolo	Convex Duality and Financial Mathematics [[electronic resource] /] / by Peter Carr, Qiji Jim Zhu
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Descrizione fisica	1 online resource (XIII, 152 p. 26 illus. in color.)
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Disciplina	650.01513
Soggetti	Economics, Mathematical Game theory Operations research Management science Functions of real variables Quantitative Finance Game Theory, Economics, Social and Behav. Sciences Operations Research, Management Science Real Functions
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	1. Convex Duality -- 2. Financial Models in One Period -- 3. Finite Period Financial Models -- 4. Continuous Financial Models -- References.
Sommario/riassunto	This book provides a concise introduction to convex duality in financial mathematics. Convex duality plays an essential role in dealing with financial problems and involves maximizing concave utility functions and minimizing convex risk measures. Recently, convex and generalized convex dualities have shown to be crucial in the process of the dynamic hedging of contingent claims. Common underlying principles and connections between different perspectives are developed; results are illustrated through graphs and explained heuristically. This book can be used as a reference and is aimed toward graduate students, researchers and practitioners in mathematics, finance, economics, and optimization. Topics include: Markowitz

portfolio theory, growth portfolio theory, fundamental theorem of asset pricing emphasizing the duality between utility optimization and pricing by martingale measures, risk measures and its dual representation, hedging and super-hedging and its relationship with linear programming duality and the duality relationship in dynamic hedging of contingent claims.

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