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Sommario/riassunto	This book summarizes recent advances in applying saddlepoint approximation methods to financial engineering. It addresses pricing exotic financial derivatives and calculating risk contributions to Value-at-Risk and Expected Shortfall in credit portfolios under various default correlation models. These standard problems involve the computation of tail probabilities and tail expectations of the corresponding underlying state variables. The text offers in a single source most of the saddlepoint approximation results in financial engineering, with different sets of ready-to-use approximation formulas. Much of this material may otherwise only be found in original research publications. The exposition and style are made rigorous by providing formal proofs of most of the results. Starting with a presentation of the derivation of a variety of saddlepoint approximation formulas in different contexts, this book will help new researchers to learn the fine technicalities of the topic. It will also be valuable to quantitative analysts in financial institutions who strive for effective valuation of prices of exotic financial derivatives and risk positions of portfolios of risky instruments. .