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Autore	Chai Runqi
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Nota di contenuto	Introduction -- Overview of Trajectory Optimization Techniques -- Modelling of the Trajectory Optimization Problems -- Performance Analysis of Different Optimization Strategies -- Hybrid Optimization Methods with Enhanced Convergence Ability -- Multi-Objective Trajectory Optimization Problem -- Real-Time Optimal Guidance Strategies for Space Maneuver Vehicles -- Stochastic Trajectory Optimization Problems with Chance Constraints -- Appendix -- References -- Index.
Sommario/riassunto	This book explores the design of optimal trajectories for space maneuver vehicles (SMVs) using optimal control-based techniques. It begins with a comprehensive introduction to and overview of three main approaches to trajectory optimization, and subsequently focuses on the design of a novel hybrid optimization strategy that combines an initial guess generator with an improved gradient-based inner optimizer. Further, it highlights the development of multi-objective

spacecraft trajectory optimization problems, with a particular focus on multi-objective transcription methods and multi-objective evolutionary algorithms. In its final sections, the book studies spacecraft flight scenarios with noise-perturbed dynamics and probabilistic constraints, and designs and validates new chance-constrained optimal control frameworks. The comprehensive and systematic treatment of practical issues in spacecraft trajectory optimization is one of the book's major features, making it particularly suited for readers who are seeking practical solutions in spacecraft trajectory optimization. It offers a valuable asset for researchers, engineers, and graduate students in GNC systems, engineering optimization, applied optimal control theory, etc.