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Nota di contenuto	Intro -- Preface -- Contents -- Introduction Model Predictive Control Relative Orbital Mechanics Rendezvous With Model Predictive Control Conclusions and Future Work. 4.7.1 Fixed Horizon Model Predictive Control -- 4.7.2 Variable Horizon Model Predictive Control -- 4.7.3 Passive Safety -- 4.7.4 Robustness Experiments -- References -- 5 Conclusions and Future Work -- 5.1 Open Research Topics -- References.
Sommario/riassunto	This brief addresses the design of model predictive control algorithms for performing space rendezvous manoeuvres. It consolidates developments within guidance and control algorithms, with the aim of improving the efficiency, safety, and autonomy of these manoeuvres. The brief presents several applications of model predictive control to rendezvous manoeuvres, including Ankersen zero-order-hold particular solution1, which provides a realistic thrust profile. It offers new approaches for rendezvous manoeuvres in elliptical orbits, formulating obstacle avoidance constraints, passive safety constraints, and robustness techniques. It also compares finite-horizon and variable-horizon formulations for model predictive control in the context of performance and computational complexity. Predictive Control for Spacecraft Rendezvous is accessible to academics and students new to the topics of orbital rendezvous and model predictive

control, but also presents compelling subject matter for researchers and professionals in the aerospace industry.