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Titolo	Satellite Formation Flying : Relative Dynamics, Formation Design, Fuel Optimal Maneuvers and Formation Maintenance / / by Danwei Wang, Baolin Wu, Eng Kee Poh
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Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 205 p. 95 illus., 69 illus. in color.)
Collana	Intelligent Systems, Control and Automation: Science and Engineering, , 2213-8986 ; ; 87
Disciplina	629.434
Soggetti	Automatic control Robotics Mechatronics Calculus of variations Aerospace engineering Astronautics Fluids Control, Robotics, Mechatronics Calculus of Variations and Optimal Control; Optimization Aerospace Technology and Astronautics Fluid- and Aerodynamics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Introduction -- Dynamic Models of Satellite Relative Motion around an Oblate Earth -- Passive and Periodic Satellite Formation Design around an Oblate Earth -- Nonlinear Optimization of Low-Thrust Trajectory for Satellite Formation -- Optimal Control for Satellite Formation Keeping -- Decentralized Control for Attitude Synchronization under Undirected Communication Topology -- Decentralized Control for Attitude Synchronization under directed Communication Topology.
Sommario/riassunto	This book systematically describes the concepts and principles for multi-satellite relative motion, passive and near passive formation designs, trajectory planning and control for fuel optimal formation

maneuvers, and formation flying maintenance control design. As such, it provides a sound foundation for researchers and engineers in this field to develop further theories and pursue their implementations. Though satellite formation flying is widely considered to be a major advance in space technology, there are few systematic treatments of the topic in the literature. Addressing that gap, the book offers a valuable resource for academics, researchers, postgraduate students and practitioners in the field of satellite science and engineering.