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| Nota di contenuto | Advances in the Control Propellant Minimization for the Next Generation Gravity Mission (A. Anselmi ) -- Transition of Two-dimensional Quasi-periodic Invariant Tori in the Real-ephemeris Model of the Earth-Moon System (N. Baresi) -- Hypersonic Point-to-Point Travel for the Common Man (E. Mooij) -- Bifocal Metrology Applications in Space Engineering (F. Bresciani) -- A Revisited Analysis of the Radioisotope Sail and its Possible Application to Relativistic Spaceflight |

(L. Derosa) -- The ERC-Funded EXTREMA Project: Achieving Self-Driving Interplanetary CubeSats (G. Di Domenico) -- Data Reduction for Optimizing the Attitude Control Dispatch in a Spacecraft (C. Durand) -- Second Order Sufcient Conditions of Strong Minimality with applications to Orbital Transfers (L. Mazzini) -- Evolutionary Optimisation of a Flexible-Launcher Simple Adaptive Control System (E. Mooij) -- Optimization and Solution Approaches in Utilizing Wireless Sensor Networks for Exploring Moon Planets and Space (O. Ozkan) -- Near-Optimal Guidance and Pulse-Modulated Reduced Attitude Control for Orbit Injection (M. Pontani) -- A Pareto front numerical reconstruction strategy applied to a satellite system conceptual design (M. Sebastián) -- Indirect optimization of robust orbit transfer considering thruster underperformance (F. Simeoni) -- Time-Varying Lyapunov Control Laws with Enhanced Estimation of Distribution Algorithm for Low-Thrust Trajectory Design (R. Armellin).

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| Sommario/riassunto | This volume consists of 14 contributed chapters written by leading experts, offering in-depth discussions of the mathematical modeling and algorithmic aspects for tackling a range of space engineering applications. This book will be of interest to researchers and practitioners working in the field of space engineering. Since it offers an in-depth exposition of the mathematical modelling, algorithmic and numerical solution aspects of the topics covered, the book will also be useful to aerospace engineering graduates and post-graduate students who wish to expand their knowledge by studying real-world applications and challenges that they will encounter in their profession. Readers will obtain a broad overview of some of the most challenging space engineering operational scenarios of today and tomorrow: this will be useful for managers in the aerospace field, as well as in other industrial sectors. The contributed chapters are mainly focused on space engineering practice. Researchers andpractitioners in mathematical systems modelling, operations research, optimization, and optimal control will also benefit from the case studies presented in this book. The model development and optimization approaches discussed can be extended towards other application areas that are not directly related to space engineering. Therefore, the book can be a useful reference to assist in the development of new modelling and optimization applications. |