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Soggetti	Vibration Dynamical systems Dynamics Robotics Automation Applied mathematics Engineering mathematics Vibration, Dynamical Systems, Control Robotics and Automation Mathematical and Computational Engineering
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Nota di contenuto	Introduction -- Preliminaries -- PDE Modeling and Basic Vibration Control for Flexible Satellite -- Boundary Control for Flexible Satellite with Input Saturation -- PDE Modeling and Basic Vibration Control for Flexible Aerial Refueling Hose -- Boundary Control for Flexible Aerial Refueling Hose with Input Saturation -- Boundary Control for Flexible Aerial Refueling Hose with Output Constraint -- PDE Modeling and Vibration Control of a Flexible Aerial Refueling Hose with Variable Lengths and Input Constraint -- Dynamic Modeling and Vibration Control for a Nonlinear Three Dimensional Flexible Manipulator -- Conclusions.
Sommario/riassunto	This book provides a comprehensive review of fundamental issues in the dynamical modeling and vibration control design for several flexible mechanical systems, such as flexible satellites, flexible aerial refueling

hoses, and flexible three-dimensional manipulators. Offering an authoritative reference guide to the dynamics and control of flexible mechanical systems, it equips readers to solve a host of problems concerning these systems. It provides not only a complete overview of flexible systems, but also a better understanding of the technical levels involved. The book is divided into ten chapters: Chapters 1 and 2 lay the foundations, while the remaining chapters explore several independent yet related topics in detail. The book's final chapter presents conclusions and recommendations for future research. Given its scope, the book is intended for researchers, graduate students, and engineers whose work involves control systems, flexible mechanical systems, and related areas.
