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Titolo	Fundamentals of Mechanics of Robotic Manipulation // by Marco Ceccarelli
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Edizione	[2nd ed. 2022.]
Descrizione fisica	1 online resource (398 pages) : illustrations (black and white)
Collana	Mechanisms and Machine Science, , 2211-0992 ; ; 112
Disciplina	629.8933
Soggetti	Automatic control Robotics Automation Mechanical engineering Civil engineering Control, Robotics, Automation Mechanical Engineering Civil Engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Previous edition: Dordrecht: Kluwer Academic Publishers, 2004
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Chapter 1: Introduction to Automation and Robotics -- Chapter 2: Analysis of Manipulations -- Chapter 3: Fundamentals of Mechanics of serial Manipulators -- Chapter 4: Fundamentals of Mechanics of Parallel Manipulators -- Chapter 5: Fundamentals of Mechanics of Grasp.
Sommario/riassunto	The book explores the fundamental issues of robot mechanics for both the analysis and design of manipulations, manipulators and grippers, taking into account a central role of mechanics and mechanical structures in the development and use of robotic systems with mechatronic design. It examines manipulations that can be performed by robotic manipulators. The contents of the book are kept at a fairly practical level with the aim to teach how to model, simulate, and operate robotic mechanical systems. The chapters have been written and organized in a way that they can be read even separately, so that

they can be used separately for different courses and purposes. The introduction illustrates motivations and historical developments of robotic mechanical systems. Chapter 2 describes the analysis and design of manipulations by automatic machinery and robots; chapter 3 deals with the mechanics of serial-chain manipulators with the aim to propose algorithms for analysis, simulation, and design purposes; chapter 4 introduces the mechanics of parallel manipulators; chapter 5 addresses the attention to mechanical grippers and related mechanics of grasping.

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