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Autore	Jauregui-Correa Juan Carlos
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Sommario/riassunto	This book describes the design experience of automatic machines and the theoretical background for controlling them. Unlike the existing literature, it includes design concepts and their relationship with the dynamic behavior of automated devices, and links the dynamic response of the machine elements with the actuators that constitute an automatic machine. As such, it demonstrates that it is vital to properly model any automatic machine as a single system and find the final response to have a good design and control scheme. The introduction describes the background for designing automatic machines, their uniqueness in machine design, and the need to understand dynamic behavior. The following chapters provide the background for modeling multibody systems, examples of typical automatic machines, and the basis for determining the dynamic response of the most common actuators (motor, pneumatic, and hydraulic pistons and valves). The fourth chapter describes the dynamic response of the most common sensors utilized in automatic machines, while the fifth chapter includes the dynamic models of the machine elements that connect the actuators with the end effects (specific tools for each particular application). The final chapters contain examples of dynamic models for different automatic machines, including all the elements that affect

the final response, and describe the simulation techniques (and their application to the examples) and the application of the transfer function for estimating the transient response of automatic machines.
