

1. Record Nr.	UNINA9910533129803321
Autore	Liu Shiping <1971->
Titolo	Dynamics and control of robotic manipulators with contact and friction // Shiping Liu, Gang (Sheng) Chen
Pubbl/distr/stampa	Hoboken, NJ : , : Wiley, , 2019
ISBN	1-119-42250-7 1-119-42251-5 1-119-42249-3
Edizione	[First edition.]
Descrizione fisica	1 online resource (255 pages)
Disciplina	629.8/933
Soggetti	Robots - Dynamics Manipulators (Mechanism) - Automatic control Tribology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	A comprehensive guide to the friction, contact and impact on robot control and force feedback mechanism Dynamics and Control of Robotic Manipulators with Contact and Friction offers an authoritative guide to the basic principles of robot dynamics and control with a focus on contact and friction. The authors discuss problems in interaction between human and real or virtual robot where dynamics with friction and contact are relevant. The book fills a void in the literature with a need for a text that considers the contact and friction generated in robot joints during their movements. Designed as a practical resource, the text provides the information needed for task planning in view of contact, impact and friction for the designer of a robot control system for high accuracy and long durability. The authors include a review of the most up-to-date advancements in robot dynamics and control. It contains a comprehensive resource to the effective design and fabrication of robot systems and components for engineering and scientific purposes. This important guide: Offers a comprehensive reference with systematic treatment and a unified framework Includes simulation and experiments used in dynamics and control of robot

considering contact, impact and friction Discusses the most current tribology methodology used to treat the multiple-scale effects Contains valuable descriptions of experiments and software used Presents illustrative accounts on the methods employed to handle friction in the closed loop, including the principles, implementation, application scope, merits and demerits Offers a cohesive treatment that covers tribology and multi-scales, multi-physics and nonlinear stochastic dynamics control Written for graduate students of robotics, mechatronics, mechanical engineering, tracking control and practicing professionals and industrial researchers, Dynamics and Control of Robotic Manipulators with Contact and Friction offers a review to effective design and fabrication of stable and durable robot system and components.

---