1. Record Nr. UNINA9911019716403321

Titolo	Wearable robots : biomechatronic exoskeletons / / edited by Jose L. Pons
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, NJ, : Wiley, c2008
ISBN	9786611320065 9781281320063 1281320064 9780470987667 0470987669 9780470987650 0470987650
Descrizione fisica	1 online resource (360 p.)
Altri autori (Persone)	PonsJose L
Disciplina	617.9 617/.9 629.892
Soggetti	Robotics in medicine Prosthesis
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Wearable Robots; Contents; Foreword; Preface; List of Contributors; 1 Introduction to wearable robotics; 1.1 Wearable robots and exoskeletons; 1.1.1 Dual human-robot interaction in wearable robotics; 1.1.2 A historical note; 1.1.3 Exoskeletons: an instance of wearable robots; 1.2 The role of bioinspiration and biomechatronics in wearable robots; 1.2.1 Bioinspiration in the design of biomechatronic wearable robots; 1.2.2 Biomechatronic systems in close interaction with biological systems; 1.2.3 Biologically inspired design and optimization procedures 1.3 Technologies involved in robotic exoskeletons1.4 A classification of wearable exoskeletons: application domains; 1.5 Scope of the book; References; 2 Basis for bioinspiration and biomimetism in wearable robots; 2.1 Introduction; 2.2 General principles in biological design; 2.2.1 Optimization of objective functions: energy consumption; 2.2.2

Sommario/riassunto

A wearable robot is a mechatronic system that is designed around the shape and function of the human body, with segments and joints corresponding to those of the person it is externally coupled with. Teleoperation and power amplification were the first applications, but after recent technological advances the range of application fields has widened. Increasing recognition from the scientific community means that this technology is now employed in telemanipulation, man-amplification, neuromotor control research and rehabilitation, and to assist with impaired human motor control. Logical in st