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| Disciplina | 612.74 |
| Soggetti | Biophysics Biomedical engineering Ultrasonics Radiology Biomedical Engineering and Bioengineering |
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| Nota di contenuto | 1 The exciting technology to use continuous signals detected in real-time -- 2 The measured quantities and their analysis such as muscle thickness -- 3 The assessment of dysfunctional muscles. |
| Sommario/riassunto | This book explains the exciting field of sonomyography (SMG), which makes it possible to use continuous signals detected by ultrasound images in real time to evaluate muscle functions. After an introduction, the book discusses the methods to extract and analyse different SMG signals, including muscle thickness, penetration angle, fascicle length, contraction activity, and muscle cross-sectional areas, etc. It then describes the mono-modal applications of sonomyography: posture recognition, prosthesis control, muscle training, muscle strength (fall risk assessment), fatigue assessment, and the assessment of dysfunctional muscles. The book also shows how to combine sonomyography with additional muscle assessment methods, in particular EMG, MMG, and motion sensors. Lastly, it provides an overview of the potential applications in sport science, rehabilitation, fitness, and elderly health. |