1.

Record Nr.	UNINA9910961409803321
Autore	Sornmo Leif
Titolo	Bioelectrical signal processing in cardiac and neurological applications / / Leif Sornmo, Pablo Laguna
Pubbl/distr/stampa	Boston ; ; Amsterdam, : Elsevier Academic Press, c2005
ISBN	1-281-03322-7
	9786611033224
	0-08-052792-2
	1-4356-0804-6
Edizione	[1st ed.]
Descrizione fisica	1 online resource (689 p.)
Collana	Biomedical Engineering
Altri autori (Persone)	LagunaPablo <1962->
Disciplina	616.8/047547
Soggetti	Brain - Electric properties
	Muscles - Electric properties
	Heart - Electric properties
	Electroencephalography
	Electromyography
	Electrocardiography
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	Bioelectrical Signal Processing in Cardiac and Neurological Applications; Copyright Page; Contents; Preface; Chapter 1. Introduction; 1.1 Biomedical Signal Processing: Objectives and Contexts; 1.2 Basics of Bioelectrical Signals; 1.3 Signal Acquisition and Analysis; 1.4 Performance Evaluation; Bibliography; Chapter 2. The Electroencephalogram-A Brief Background; 2.1 The Nervous System; 2.2 The EEG-Electrical Activity Measured on the Scalp; 2.3 Recording Techniques; 2.4 EEG Applications; Bibliography; Chapter 3. EEG Signal Processing; 3.1 Modeling the EEG Signal; 3.2 Artifacts in the EEG 3.3 Nonparametric Spectral Analysis 3.4 Model-based Spectral Analysis; 3.5 EEG Segmentation; 3.6 Joint Time-Frequency Analysis; Bibliography; Problems; Chapter 4. Evoked Potentials; 4.1 Evoked Potential Modalities; 4.2 Noise Characteristics; 4.3 Noise Reduction by Ensemble Averaging; 4.4 Noise Reduction by Linear Filtering; 4.5 Single-Trial Analysis Using Basis Functions; 4.6 Adaptive Analysis Using Basis

| Sommario/riassunto | The analysis of bioelectrical signals continues to receive wide attention in research as well as commercially because novel signal processing techniques have helped to uncover valuable information for improved diagnosis and therapy. This book takes a unique problem-driven approach to biomedical signal processing by considering a wide range of problems in cardiac and neurological applications-the two ""heavyweight"" areas of biomedical signal processing. The interdisciplinary nature of the topic is reflected in how the text interweaves physiological issues with related methodological considerations |