

1. Record Nr.	UNINA9910807470203321
Autore	Neilson George
Titolo	Magnetic fusion energy : from experiments to power plants // edited by George H. Neilson
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ISBN	0-08-100326-9
Edizione	[1st edition]
Descrizione fisica	1 online resource (634 pages) : illustrations (some color)
Collana	Woodhead Publishing Series in Energy ; ; Number 99
Disciplina	621.484
Soggetti	Controlled fusion - Research Fusion reactors - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	Magnetic Fusion Energy: From Experiments to Power Plants is a timely exploration of the field, giving readers an understanding of the experiments that brought us to the threshold of the ITER era, as well as the physics and technology research needed to take us beyond ITER to commercial fusion power plants. With the start of ITER construction, the world's magnetic fusion energy (MFE) enterprise has begun a new era. The ITER scientific and technical (S&T) basis is the result of research on many fusion plasma physics experiments over a period of decades. Besides ITER, the scope of fusion research must be broadened to create the S&T basis for practical fusion power plants, systems that will continuously convert the energy released from a burning plasma to usable electricity, operating for years with only occasional interruptions for scheduled maintenance. Provides researchers in academia and industry with an authoritative overview of the significant fusion energy experiments Considers the pathway towards future development of magnetic fusion energy power plants Contains experts contributions from editors and others who are well known in the field

2. 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

Functions; 4.7 Wavelets; Bibliography; Problems; Chapter 5. The Electromyogram; 5.1 The Electrical Activity of Muscles; 5.2 Amplitude Estimation in the Surface EMG
5.3 Spectral Analysis of the Surface EMG 5.4 Conduction Velocity Estimation; 5.5 Modeling the Intramuscular EMG; 5.6 Intramuscular EMG Signal Decomposition; Bibliography; Problems; Chapter 6. The Electrocardiogram-A Brief Background; 6.1 Electrical Activity of the Heart; 6.2 Generation and Recording of an ECG; 6.3 Heart Rhythms; 6.4 Heartbeat Morphologies; 6.5 Noise and Artifacts; 6.6 Clinical Applications; Bibliography; Chapter 7. ECG Signal Processing; 7.1 Baseline Wander; 7.2 Powerline Interference; 7.3 Muscle Noise Filtering; 7.4 QRS Detection; 7.5 Wave Delineation; 7.6 Data Compression Bibliography Problems; Chapter 8. ECG Signal Processing: Heart Rate Variability; 8.1 Acquisition and RR Interval Conditioning; 8.2 Time Domain Measures; 8.3 Heart Rhythm Representations; 8.4 Spectral Analysis of Heart Rate Variability; 8.5 Clustering of Beat Morphologies; 8.6 Dealing with Ectopic Beats; 8.7 Interaction with Other Physiological Signals; Bibliography; Problems; Appendix A. Review of Important Concepts; A.1 Matrix Fundamentals; A.2 Discrete-Time Stochastic Processes; Bibliography; Appendix B. Symbols and Abbreviations; B.1 Mathematical Symbols; B.2 Abbreviations; Index

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
