1. Record Nr. UNISA990001326210203316

Autore	PLOTINUS
Titolo	Plotinus / with an English translation by A. H. Armstrong
Pubbl/distr/stampa	Cambridge (Massachusetts); London : Harvard University Press
Descrizione fisica	volumi ; 17 cm
Collana	The Loeb classical library
Disciplina	186.4
Collocazione	V.1. Coll. 7/ 1/(VIII D 63/)
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Testo originale a fronte

2. Record Nr. UNINA9910299981503321

Autore	Franzone Piero Colli
Titolo	Mathematical Cardiac Electrophysiology / / by Piero Colli Franzone, Luca Franco Pavarino, Simone Scacchi
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2014
ISBN	9783319048017 3319048015
Edizione	[1st ed. 2014.]
Descrizione fisica	1 online resource (410 p.)
Collana	MS&A, Modeling, Simulation and Applications, , 2037-5263 ; ; 13
Disciplina	612.1 612.171
Soggetti	Mathematics - Data processing Biomedical engineering Medicine - Research Biology - Research Computational Mathematics and Numerical Analysis Biomedical Engineering and Bioengineering Biomedical Research
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	1 Basic cardiac anatomy and electrocardiology -- 2 Mathematical models of cellular bioelectrical activity -- 3 Mathematical models of cardiac cells arrangements: the Bidomain model -- 4 Reduced macroscopic models: the Monodomain and Eikonal models -- 5 Anisotropic cardiac sources -- 6 The Inverse problem of Electrocardiology -- 7 Numerical methods for the Bidomain and reduced models -- 8 Parallel solvers for the Bidomain system -- 9 Simulation studies of cardiac bioelectrical activity -- 10 Appendix A: Cardiac simulation projects, software, libraries.
Sommario/riassunto	This book covers the main mathematical and numerical models in computational electrocardiology, ranging from microscopic membrane models of cardiac ionic channels to macroscopic bidomain, monodomain, eikonal models and cardiac source representations. These advanced multiscale and nonlinear models describe the cardiac bioelectrical activity from the cell level to the body surface and are employed in both the direct and inverse problems of electrocardiology. The book also covers advanced numerical techniques needed to efficiently carry out large-scale cardiac simulations, including time and space discretizations, decoupling and operator splitting techniques, parallel finite element solvers. These techniques are employed in 3D cardiac simulations illustrating the excitation mechanisms, the anisotropic effects on excitation and repolarization wavefronts, the morphology of electrograms in normal and pathological tissue and some reentry phenomena. The overall aim of the book is to present rigorously the mathematical and numerical foundations of computational electrocardiology, illustrating the current research developments in this fast-growing field lying at the intersection of mathematical physiology, bioengineering and computational biomedicine. This book is addressed to graduate student and researchers in the field of applied mathematics, scientific computing, bioengineering, electrophysiology and cardiology.