

## PREFACE

This collection includes the main part of the best papers presented in the International Conference (CHAOS2008) on Chaotic Modeling, Simulation and Applications, Chania, Crete, Greece, June 3–6, 2008. The task was to bring together various groups working in the area of Nonlinear Systems and Dynamics, Chaotic Theory and Application for exchanging views and reporting research findings. The topics included are relevant to the study of nonlinear systems and dynamics in an interdisciplinary research, and include many very interesting applications. This book provides a valuable collection of new ideas, methods, and techniques in the field of Nonlinear Dynamics, Chaos, Fractals and their applications in General Science and Engineering Sciences.

The book focuses on many fields such as Chaos and Dynamical Systems, Nonlinear Systems, Fractals, Chaotic Attractors, Mechanics, Hydro-Fluid Dynamics, Chaotic Advection, Chaos in Meteorology and Cosmology, Bifurcation, Hamiltonian and Quantum Chaos, Plasma Physics, Chaos in Biology and Genetics, Chaos in Medicine and Physiology, Chaotic Control, Time Series Analysis and Forecasting Chaotic Systems, Chaos in Economy and Markets, Traffic Flow, and Chaotic Simulations. These contributions present new ideas and methods for solving problems by analyzing the relevant data. Also, the use of recent advances in different fields are emphasized, especially on chaotic simulation methods and techniques.

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