

Preface

In view of the importance of control and optimization and their applications, the 5th International Conference on Optimization and Control with Applications (OCA5) was held in Cui Gong Hotel, China University of Petroleum, Beijing during December 4–8, 2012. As a continuation of the OCA series, the goal of the 5th OCA is to provide an international forum for scientists, engineers, researchers, and practitioners to exchange ideas and approaches, to present research findings and state-of-the-art solutions, to share experiences on potentials and limits, and to open new avenues of research and developments on all issues and topics related to optimization and control.

More than 200 scholars from 20 countries attended the conference. It consisted of 9 plenary lectures and 120 contributed talks. After the conference, some high-quality papers were invited to submit the full versions of their papers to be considered for publication in this book.

This book contains 14 papers, each of which was accepted after a stringent peer review process by at least two independent reviewers. These papers can be divided into two parts: Part I, Optimization and Control Theory and Part II, Techniques and Applications. Part I contains seven chapters with topics which include control theory on infinite dimensional Banach spaces, history-dependent inclusions, linear programming complexity theory, periodic optimization problems, multi-objective semi-infinite optimization problems, and production planning problems. In Part II, there are seven chapters. These chapters address techniques and applications of optimization and control in a variety of disciplines, such as chaos synchronization, facial expression recognition, dynamic input–output economic models, image retrieval, natural earth satellites orbital transfers, snap-back repellers, and modern logistic systems.

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