CONTEMPORARY MATHEMATICS

586

Recent Advances in Scientific Computing and Applications

Eighth International Conference
on Scientific Computing and Applications
April 1–4, 2012
University of Nevada
Las Vegas, Nevada

Jichun Li
Hongtao Yang
Eric Machorro
Editors

American Mathematical Society

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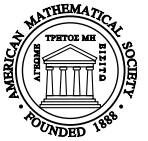

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Contents

Preface

The Eighth International Conference on Scientific Computing and Applications (SCA) was held in University of Nevada Las Vegas (UNLV) during April 1 - 4, 2012. This series of conferences were held in the Pacific Rim region, including Hong Kong (twice), Alberta of Canada (twice), Shanghai in China, Busan in Korea, and Dalian in China. It is the first time this SCA conference was held in USA, and it was the largest of all SCA conferences. It attracted about 180 participants from Australia, Brasil, Canada, China, Cyprus, Czech Republic, France, Germany, Hong Kong, Ireland, Italy, Philippines, Saudi Arabia, Sweden, United Arab Emirates, United Kingdom, and USA. More than 140 papers were presented on various subjects in modern scientific computing and its applications, such as finite element methods, multiscale methods, finite difference methods, spectral methods, collocation methods, adaptive methods, parallel computing, linear solvers, and applications to fluid flow, nano-optics, biofilms, finance, magnetohydrodynamics flow, electromagnetic waves, fluid-structure interaction problem, and stochastic PDEs. This book contains 39 selected papers, which represent some currently active subjects. This book can serve as an excellent reference for graduate students and researchers who work in scientific computing and its applications in various areas of science and engineering.

This conference would not be possible without the support of many organizations and assistance of many people. It received generous support from National Science Foundation (under grant DMS 1139712), National Security Technologies LLC (under Contract No. DE-AC52-06NA25946 with the U.S. Department of Energy and supported by the Site-Directed Research and Development Program), and Department of Mathematical Sciences (DMS) of UNLV. The hard work of the local organizers (Drs. Derrick Dubose, Monica Neda, Pengtao Sun and Yitung Chen) and our graduate students (Sean Breckling, Jiacheng Cai, Xudong Sun, Yuzhou Sun, Jiajia Waters, and Lanxuan Yu) were critical to the success of the conference. We also like to thank Dr. Derrick Dubose (Chair of DMS), Patricia Pablo and Erin McNamara (staff of DMS) for their enthusiastic support. Finally, we would like to thank Mrs. Christine M. Thivierge for her kind assistance in publishing this volume.

Jichun Li, Hongtao Yang, and Eric Machorro (all in Las Vegas)

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586 **Jichun Li, Hongtao Yang, and Eric Machorro, Editors,** Recent Advances in Scientific Computing and Applications, 2013

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578 **G. López Lagomasino,** Recent Advances in Orthogonal Polynomials, Special Functions, and Their Applications, 2012

577 **Habib Ammari, Yves Capdeboscq, and Hyeonbae Kang, Editors,** Multi-Scale and High-Contrast PDE, 2012

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570 **Joaquín Pérez and José A. Gálvez, Editors,** Geometric Analysis, 2012

569 **Victor Goryunov, Kevin Houston, and Roberta Wik-Atique, Editors,** Real and Complex Singularities, 2012

568 **Simeon Reich and Alexander J. Zaslavski, Editors,** Optimization Theory and Related Topics, 2012

567 **Lewis Bowen, Rostislav Grigorchuk, and Yaroslav Vorobets, Editors,** Dynamical Systems and Group Actions, 2012

566 **Antonio Campillo, Gabriel Cardona, Alejandro Melle-Hernández, Wim Veys, and Wilson A. Zúñiga-Galindo, Editors,** Zeta Functions in Algebra and Geometry, 2012

565 **Susumu Ariki, Hiraku Nakajima, Yoshihisa Saito, Ken-ichi Shinoda, Toshiaki Shoji, and Toshiyuki Tanisaki, Editors,** Algebraic Groups and Quantum Groups, 2012

564 **Valery Alexeev, Angela Gibney, Elham Izadi, János Kollár, and Eduard Looijenga, Editors,** Compact Moduli Spaces and Vector Bundles, 2012

563 **Primitivo B. Acosta-Humánez, Federico Finkel, Niky Kamran, and Peter J. Olver, Editors,** Algebraic Aspects of Darboux Transformations, Quantum Integrable Systems and Supersymmetric Quantum Mechanics, 2012

562 **P. Ara, K. A. Brown, T. H. Lenagan, E. S. Letzter, J. T. Stafford, and J. J. Zhang, Editors,** New Trends in Noncommutative Algebra, 2012

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