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Large-Scale Scientific Computing

Third International Conference, LSSC 2001
Sozopol, Bulgaria, June 6-10, 2001
Revised Papers



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Preface

The papers in this volume were presented at ICLSSC 2001, the Third International Conference on Large-Scale Scientific Computing. ICLSSC 2001 was held in Sozopol, Bulgaria, June 6–10, 2001. The conference was organized and sponsored by the Central Laboratory on Parallel Processing of the Bulgarian Academy of Sciences, and the Department of Numerical Analysis and Statistics of the University of Rouse, Bulgaria. Support was also received from the Center of Excellence “BIS 21” (funded by the European Commission), SIAM (Society for Industrial and Applied Mathematics) and its Activity Group on Supercomputing. We are indebted to our colleagues who helped us in the organization of this conference. We thank the organizers of the special sessions: O. Axelsson, I. Dimov, A. Ebel, K. Georgiev, V. Getov, S. Heinrich, O. Iliev, A. Karaivanova, S. Margenov, P. Minev, M. Schäfer, and Z. Zlatev. We also thank I. Lirkov for the help in putting together this book.

The purpose of the conference was to bring together scientists working with large computational problems in industry, and specialists in the field of numerical analysis‘ methods and efficient exploitation of modern high-speed computers. Some classes of methods appear again and again in the numerical treatment of problems from different fields of science and engineering. The aim of this conference was to select some of these numerical methods and plan further experiments on several types of parallel computers. The key lectures reviewed the most important numerical algorithms and scientific applications on parallel computers. The invited speakers included university and practical engineers from industry, as well as applied mathematicians, numerical analysts, and computer experts. The general theme for ICLSSC 2001 was Large-Scale Scientific Computing, focusing on:

- Robust preconditioning algorithms,
- Monte Carlo methods,
- Advanced programming environments for scientific computing,
- Large-scale computations in air pollution modeling,
- Large-scale computations for mechanical engineering problems, and
- Numerical methods for incompressible flow.

The workshop itself attracted about 80 participants from around the world. Authors from over 15 countries submitted 52 papers, of which 7 were invited, and 45 were contributed. The Fourth International Conference (ICLSSC 2003) will take place in 2003.

October 2001

Svetozar Margenov
Jerzy Waśniewski
Plamen Yalamov

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