Lecture Notes in Computer Science 2907
Edited by G. Goos, J. Hartmanis, and J. van Leeuwen

Springer
Berlin
Heidelberg
New York
Hong Kong
London
Milan
Paris
Tokyo

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Large-Scale Scientific Computing

4th International Conference, LSSC 2003
Sozopol, Bulgaria, June 4-8, 2003
Revised Papers

Springer

Editors

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Cataloging-in-Publication Data applied for

A catalog record for this book is available from the Library of Congress.

Bibliographic information published by Die Deutsche Bibliothek
Die Deutsche Bibliothek lists this publication in the Deutsche Nationalbibliografie; detailed bibliographic data is available in the Internet at <http://dnb.ddb.de>.

CR Subject Classification (1998): G.1, D.1, D.4, F.2, I.6, J.2, J.6

ISSN 0302-9743
ISBN 3-540-21090-3 Springer-Verlag Berlin Heidelberg New York

Typesetting: Camera-ready by author, data conversion by Olgun Computergrafik
Printed on acid-free paper SPIN: 10982839 06/3142 5 4 3 2 1 0

Preface

The papers in this volume were presented at the 4th International Conference on Large-Scale Scientific Computations ICLSSC 2003. It was held in Sozopol, Bulgaria, June 4–8, 2003. The conference was organized and sponsored by the Central Laboratory for Parallel Processing at the Bulgarian Academy of Sciences. Support was also provided from the Center of Excellence "BIS 21" (funded by the European Commission), SIAM and GAMM. A co-organizer of this traditional scientific meeting was the Division of Numerical Analysis and Statistics of the University of Rousse.

The success of the conference and the present volume in particular are the outcome of the joint efforts of many colleagues from various institutions and organizations. First thanks to all the members of the Scientific Committee for their valuable contribution to forming the scientific face of the conference, as well as for their help in reviewing contributed papers. We would like to specially thank the organizers of the special sessions: R. Blaheta, N. Dimitrova, A. Ebel, K. Georgiev, O. Iliev, A. Karaivanova, H. Kosina, M. Krastanov, U. Langer, P. Minev, M. Neytcheva, M. Schäfer, V. Veliov, and Z. Zlatev. We are also grateful to the staff involved in the local organization.

Special Events:

- **The conference was devoted to the 60th anniversary of Raytcho Lazarov.**
- **During the conference, the nomination for the World Level of the Hall of Fame for Engineering, Science and Technology, HOFEST, was officially awarded to Owe Axelsson.**

Traditionally, the purpose of the conference is to bring together scientists working with large-scale computational models of environmental and industrial problems, and specialists in the field of numerical methods and algorithms for modern high-speed computers. The key lectures reviewed some of the advanced achievements in the field of numerical methods and their efficient applications. The ICLSSC 2003 talks were presented by university researchers and practical industry engineers, including applied mathematicians, numerical analysts and computer experts. The general theme for ICLSSC 2003 was Large-Scale Scientific Computing, focusing on:

- Recent achievements in preconditioning techniques;
- Monte Carlo and quasi-Monte Carlo methods;
- set-valued numerics and reliable computing;
- environmental modelling;
- large-scale computations for engineering problems.

More than 90 participants from all over the world attended the conference, representing some of the strongest research groups in the field of advanced large-

scale scientific computing. This volume contains 55 papers submitted by authors from over 20 countries, out of which 5 were invited and 50 were contributed.

The 5th International Conference LSSC 2005 is planned for June 2005.

November 2003

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