Dear Colleagues:

This volume contains part of the proceedings of the SCAN–95 conference held in Wuppertal, Germany, from September 26 to 29, 1995.

The SCAN meetings—International Symposium on Scientific Computing, Computer Arithmetic and Validated Numerics—take place biannually under the joint auspices of GAMM (Gesellschaft für Angewandte Mathematik und Mechanik) and IMACS (International Association for Mathematics and Computers in Simulation).

SCAN–95 attracted more than 120 participants from 17 countries all over the world. Eleven plenary lectures and sixty contributed talks were given. In addition, some twenty posters and several software demonstrations were presented. The conference was substantially supported by Deutsche Forschungsgemeinschaft, the federal state of Nordrhein-Westfalen, Wuppertal University and other organizations and institutions. Due to this funding, the participation of 29 scientists, mainly from Middle and Eastern European countries, could be subsidized.

The scientific contents of the SCAN meetings traditionally cover all aspects of validation techniques in Scientific Computing, ranging from hardware requirements, elementary operations, high accuracy function evaluations and interval arithmetic to advanced validating numerical techniques and applications in various fields of practical interest. To emphasize just some of the many topical subjects treated at SCAN–95 we mention the use of validation techniques in the analysis of dynamical systems, parallel validating algorithms, systems of linear and nonlinear equations and global optimization, complexity results for problems with uncertain data, methods for ordinary and partial differential equations, and applications to the design of electric circuits and liquid crystal displays.

The contributions in this volume are complemented by the other part of the proceedings published by Akademie Verlag Berlin under the title "Scientific Computing and Validated Numerics—Proceedings of SCAN–95" (340 pages), edited by G. Alefeld, A. Frommer, and B. Lang. We are grateful to all authors for providing us with their interesting and well-written papers, to the referees for their speedy and conscientious work, and to the authors and referees for their effort to keep to our—sometimes extremely sharp—deadlines.

Special thanks are due to the other members of the scientific committee (Gerhard Heindl, R. Baker Kearfott, David Matula, Günter Mayer, Sergey Shary, Hans-J. Stetter, and Tetsuro Yamamoto) for assisting us in preparing the conference and selecting contributions.

Andreas Frommer wishes to express his particular gratitude to all colleagues, members of his research group and the other staff at Wuppertal University involved in preparing and running the conference: Sonja Berner, Hans-Jürgen Buhl, Tibor Csendes (visiting from Szeged, Hungary), Peter Fiebach, Stefan Gribhofer, Benedikt Groer, Sabine Hofmann, Janos Korzak, Bruno Lang, Elvira Mertens, Brigitte Schultz, and Alexander Schütz.

Finally, we thank the editors of the Journal of Reliable Computing for giving us the opportunity to publish part of the proceedings in this place.

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