

# Lecture Notes in Computer Science

1277

Edited by G. Goos, J. Hartmanis and J. van Leeuwen

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Victor Malyshkin (Ed.)

# Parallel Computing Technologies

4th International Conference, PaCT-97  
Yaroslavl, Russia, September 8-12, 1997  
Proceedings



Springer

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Cataloging-in-Publication data applied for

**Die Deutsche Bibliothek - CIP-Einheitsaufnahme**

**Parallel computing technologies : 4th international conference ;  
proceedings / PaCT-97, Yaroslavl, Russia, September 8 - 12, 1997.  
Victor Malyshkin (ed.). - Berlin ; Heidelberg ; New York ; Barcelona  
; Budapest ; Hong Kong ; London ; Milan ; Paris ; Santa Clara ;  
Singapore ; Tokyo : Springer, 1997  
(Lecture notes in computer science ; Vol. 1277)  
ISBN 3-540-63371-5**

CR Subject Classification (1991): D, C, F.1-2, I.6

ISSN 0302-9743

ISBN 3-540-63371-5 Springer-Verlag Berlin Heidelberg New York

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Printed in Germany

Typesetting: Camera-ready by author

SPIN 10547834 06/3142 - 5 4 3 2 1 0 Printed on acid-free paper

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## Preface

PaCT-97 (Parallel Computing Technologies) international conference was held in the city of Yaroslavl over five days, September 8 – 12, 1997. It was the fourth conference of the PaCT series organized in Russia every odd year. The three previous conferences were held: in Novosibirsk (Academgorodok), September 7 – 11, 1991; in Obninsk (near Moscow), August 30 – September 4, 1993; and in St. Petersburg, September 12 – 15, 1995.

PaCT-97 was jointly organized by the Computing Centre of the Russian Academy of Sciences (Novosibirsk) and the State University of Yaroslavl. We always do our best to attract the scientists engaged in research in different areas of parallel computing: architecture and hardware, system software and solution of big size problems, etc., in order to integrate the discussions on supercomputer applications and parallel computing technologies in general.

It is apparent that there are growing trends towards the mathematical modeling of natural phenomena on supercomputers instead of carrying out real experiments. In particular, it is far more attractive to study mathematical models of nuclear explosions than to carry out the real explosions. But realistic mathematical models of natural phenomena can be implemented on supercomputers only. Thus, supercomputers are gaining more and more importance as scientific instruments for studying nature. We are already convinced that the newest technologies cannot be developed without their pre-modeling on supercomputers. Therefore one of the main objectives of the science of parallel computing technologies is to support and develop such promising trends.

The conference attracted more than 100 participants from many countries. The proceedings of the conference contain 21 full papers, 20 short papers, and 10 selected posters (two pages). They are divided into six sections: theory, software, hardware and architecture, applications, posters, tutorials. Each submitted paper was internationally reviewed by three reviewers.

Three special sessions devoted to tutorial, demonstration, and training on new parallel tools were organized for the participants of PaCT-97. The tools were developed by the university teams. Each participant was given copies of the tools (free of charge). The descriptions of these tools are included in the proceedings and available on the PaCT Web site (<http://ssd.sccc.ru/pact>).

We would like to express our gratitude to our sponsors: Russian Foundation for Basic Research, Russian Academy of Sciences, Russian State Committee of Higher Education, Yaroslavl Regional Government, and DG III (European Commission). Organizers also greatly appreciated the assistance of the Association Antenne Provence (France).

May 29, 1997

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