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Stochastic Algorithms: Foundations and Applications

Third International Symposium, SAGA 2005
Moscow, Russia, October 20-22, 2005
Proceedings

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Library of Congress Control Number: 2005934273

CR Subject Classification (1998): F.2, F.1.2, G.1.2, G.1.6, G.2, G.3

ISSN 0302-9743
ISBN-10 3-540-29498-8 Springer Berlin Heidelberg New York
ISBN-13 978-3-540-29498-6 Springer Berlin Heidelberg New York

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© Springer-Verlag Berlin Heidelberg 2005
Printed in Germany

Typesetting: Camera-ready by author, data conversion by Scientific Publishing Services, Chennai, India
Printed on acid-free paper SPIN: 11571155 06/3142 5 4 3 2 1 0

Preface

This volume constitutes the proceedings of the 3rd Symposium on Stochastic Algorithms, Foundations and Applications (SAGA 2005), held in Moscow, Russia, at Moscow State University on October 20–22, 2005. The symposium was organized by the Department of Discrete Mathematics, Faculty of Mechanics and Mathematics of Moscow State University and was partially supported by the Russian Foundation for Basic Research under Project No. 05–01–10140–Г. The SAGA symposium series is a biennial meeting which started in 2001 in Berlin, Germany (LNCS vol. 2264). The second symposium was held in September 2003 at the University of Hertfordshire, Hatfield, UK (LNCS vol. 2827).

Since the first symposium in Berlin in 2001, an increased interest in the SAGA series can be noticed. For SAGA 2005, we received submissions from China, the European Union, Iran, Japan, Korea, Russia, SAR Hong Kong, Taiwan, and USA, from which 14 papers were finally selected for publication after a thorough reviewing process.

The contributed papers included in this volume cover both theoretical as well as applied aspects of stochastic computations, which is one of the main aims of the SAGA series. Furthermore, five invited lectures were delivered at SAGA 2005: The talk by Alexander A. Sapozhenko (Moscow State University) summarizes results on the *container method*, a technique that is used to solve enumeration problems for various combinatorial structures and which has numerous applications in the design and analysis of stochastic algorithms. Christos D. Zaroliagis (University of Patras) presented recent advances in multiobjective optimization. Joachim Wegener (DaimlerChrysler AG, Research and Technology) introduced new search-based techniques for software testing, with particular emphasis on finding time-critical pathways in safety-relevant software components. Chrystopher L. Nehaniv (University of Hertfordshire) presented a comprehensive overview and the latest results on self-replication, evolvability and asynchronicity in stochastic worlds. The talk by Farid Ablayev (Kazan State University) analyzed from the communication point of view some proof techniques for obtaining lower complexity bounds in various classical models (deterministic, nondeterministic and randomized), and quantum models of branching programs.

We wish to thank all who supported SAGA 2005, all authors who submitted papers, all members of the Programme Committee and all reviewers for the great collective effort, all invited speakers, all members of the Organizing Committee, and the Russian Foundation for Basic Research for financial support.

October 2005

Oleg B. Lupanov, Oktay M. Kasim-Zade,
Alexander V. Chashkin, Kathleen Steinhöfel

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