Computational Geometry
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Computational Geometry

Lectures at the Morningside Center of Mathematics

Ren-Hong Wang, Editor
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Series Preface

This is a subseries of AMS-IP publications dedicated to the research activities of the Morningside Center of Mathematics, Chinese Academy of Sciences in Beijing, China. The Morningside Center supports research activities by inviting leading figures in different disciplines of mathematics to give lectures. These leaders direct programs in their disciplines. The participants are young Chinese mathematicians or some visitors from overseas. At the end of the programs, the lectures are collected and organized by the program directors. We believe these programs have been very successful and helpful in promoting mathematics as a whole.

We wish to thank the Morningside Foundation and the Chinese Academy of Sciences for providing the funding. We also wish to thank the staff at our Morningside Center who helped run our programs. We would also like to take this opportunity to thank all of the universities in China who have cooperated with us on these activities, especially to the mathematicians all over the world who have provided unselfish help. We thank them for their efforts. We would also like to thank International Press and the American Mathematical Society for assisting in the publication of this volume.

YANG Lo and S.T. Yau
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Acknowledgement

The program on Computational Geometry was held at the Morningside Center of Mathematics, Chinese Academy of Science, Beijing, China, from March to August of 1998.

During this program, there was also a Symposium of Computational Geometry organized by the Morningside Center of Mathematics, Insitute of Software (Prof. J.C. Sun), and Institute of Computing Technology (Prof. H. Li), held at the Morningside Center of Mathematics on June 11–15, 1998.

The program successfully brought together the participants, including young researchers, to exchange ideas and to generate interdisciplinary results.

Many experts were invited to attend the program and give lectures.

The proceedings is based on the invited lectures and some contributed papers presented by researchers working in the Morningside Center of Mathematics during the program.

I would like to take this opportunity to thank the invited lecturers, young researchers and all the participants.

I would like also to thank those who assisted in various ways with the preparation for, and running of, this program. I would especially like to thank Professor Shing-Tung Yau and Professor Lo Yang for giving us this very good opportunity to organize the program and giving us strong support. Without their help, the program, as well as these proceedings, wouldn’t have been possible.

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Computational geometry is a borderline subject related to pure and applied mathematics, computer science, and engineering. The book contains articles on various topics in computational geometry, which are based on invited lectures and some contributed papers presented by researchers working during the program on Computational Geometry at the Morningside Center of Mathematics of the Chinese Academy of Science. The opening article by R.-H. Wang gives a nice survey of various aspects of computational geometry, many of which are discussed in more detail in other papers in the volume. The topics include problems of optimal triangulation, splines, data interpolation, problems of curve and surface design, problems of shape control, quantum teleportation, and others.