现代应用数学丛书

2

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计算流体力学的新进展

——理论、方法和应用

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New Advances in Computational Fluid Dynamics

—Theory, Methods and Applications

F.Dubois　Wu Huamo

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前　言

由中法应用数学研究所 (ISFMA) 主办的计算流体力学学术会议于 1999 年 9 月 6 日至 17 日在西安交通大学举行. 会议的目的是联系高速飞行器和透平机械的设计与计算要求, 总结并介绍计算流体力学方面的最新研究成果及计算方法, 促进中法两国学术界和有关应用部门间的交流与协作, 推动计算流体力学在中国的发展. 参加会议的有计算流体力学方面的学者及实际工作人员、高校教师、硕士及博士研究生、博士后等共八十余人, 其中有 7 位是来自法国的代表.

会议包括 4 个 12 小时的系列讲座, 14 个 1 小时的大会邀请报告以及若干个专题交流报告. 本书中收集了 3 个系列讲座的讲稿以及部分大会邀请报告与专题交流报告的书面材料. 所收集的内容涉及当前计算流体力学的许多活跃的研究方向, 对于在计算流体力学领域工作的学者、学生及实际工作人员相信会有较大的帮助.

我们衷心感谢李大潜教授发起筹备这次会议, 感谢西安交通大学数学系李开泰教授等同志出色地组织了本次会议. 我们还要感谢给予我们各方面帮助的同事们, 特别是在学术活动和会议组织方面作了大量工作的本次会议科学委员会的国内外委员和会议组织委员会的委员们. 我们感谢复旦大学数学系特别是蔡志杰博士在整理出版本书中所做的大量细致的工作.

这次会议得到了法国驻中国大使馆、法国驻沪总领事馆、教育部数学研究与高等人才培养中心、国家自然科学基金委员会、复旦大学、西安交通大学、中国航空计算技术研究所及西北工业大学的支持和资助, 特致谢忱. 最后, 我们对高等教育出版社在出版本书过程中所给予的热情帮助表示诚挚的谢意.

F.Dubois　邬华谟

1999 年 11 月

Preface

The ISFMA Symposium on Computational Fluid Dynamics was held at Xi'an Jiaotong Univresity, Xi'an, China on September 6-17, 1999. According to the demand on the design and computation of high-speed air vehicles and turbine machinery, the purpose of the symposium was to introduce the present state of Computational Fluid Dynamics (CFD); to promote the exchange and collaboration between CFD scientists from China and France and to push forward the development of CFD in China. Over 80 participants attended the symposium. Among them there were CFD researchers and practicians, teachers, graduate students and post-graduate fellows from universities and research institutes, including 7 participants came from France.

The activities of the symposium included four 12-hour plenary lectures; 14 one-hour invited talks and some talks on special topics in CFD. This volume collected the written version of 3 plenary lectures, part of invited talks and talks on special topics. The collected material involves newest results in many important directions for CFD. It will be beneficial to CFD researchers, students and practicians.

We would like to thank Prof. Li Tatsien for his initiation of organizing this symposium. We give our thanks to Prof. Li Kaitai and his colleagues from Xi'an Jiaotong University for their successful organization. We would like to take this opportunity to express our appreciation to all colleaques, especially to the members of the Scientific Committee and the Organizing Committee. Our sincere thanks are due to the Department of Mathematics of Fudan University, especially to Dr. Cai Zhijie for his heavy work in editing this volume.

The symposium was supported by the French Embassy in Beijing, the Consulate General of France in Shanghai, the Mathematical Center of the Education Ministry of China, the National Natural Science Foun-

dation of China, Fudan University, Xi'an Jiaotong University, Aeronautics Computing Technique Research Institute, Northwestern Polytechnical University. We are indebted to all of these supporters. Finally, we would like to give our sincere thanks to Higher Education Press for their help in publishing this book.

François Dubois Wu Huamo

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