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Edited by Henri Cabannes and Roger Temam



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Editors' Preface

This issue of Lecture Notes in Physics is the second of two volumes constituting the Proceedings of the Third International Conference on Numerical Methods in Fluid Mechanics, which was held at the University of Paris VI, from July 3 to 7, 1972. Three general lectures and forty eight short individual communications were presented at this conference; the complete proceedings are published here. The general lectures were given by Professor A. DORODNICYN, Director of the Computing Center of the Academy of Sciences of the Soviet Union, who presented the Soviet works dealing with the solution of Navier-Stokes equations; by P. MOREL, professor at the University of Paris VI and Director at the Laboratory of Dynamical Meteorology of the National Center of scientific research (C.N.R.S.), who presented the Problems of numerical simulation of geophysical flows; by Professor R.D. RICHTMYER of the University of Colorado, U.S.A., who spoke on Methods for (generally unsteady) Flows with Shocks.

The individual communications have been separated into two groups: Fundamental Numerical Techniques and Problems of Fluid Mechanics; in each group they are published in the alphabetic order of the author, or of the first of the authors.

Volume I contains the three general lectures and the thirteen communications on Fundamental Numerical Techniques. Volume II contains the thirty five communications on Problems of Fluid Mechanics.

This Conference follows the conferences with the same topic hold at Novossibirsk, U.S.S.S. in 1969, and at Berkeley, U.S.A. in 1970 (the proceedings of which appeared in Lecture Notes in Physics, Vol. 8). The French Organizing Committee was sponsored by Commissariat à l'Energie Atomique, Electricité de France, Union des Chambres Syndicales des Industries du Pétrole, in France, and also by the Office of Naval Research and Air Force Office of Scientific Research, in the U.S.A. The Universities of Paris VI and Paris XI, and the Centre National de la Recherche Scientifique also helped the Committee in a much appreciated manner.

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We wish to thank all the persons who contributed to the success of the Conference, the participants for their scientific contributions, our colleagues and younger researchers for their help in the organization and Mrs. M.T. CARTIER and Miss S. DELABEYE for their excellent secretarial work.

Finally we wish to express our appreciation to Dr. W. BEIGLBÖCK and the Springer-Verlag Company for the rapid publication of these proceedings in the series of Lecture Notes in Physics.

January 25, 1973

HENRI CABANNES
ROGER TEMAM

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