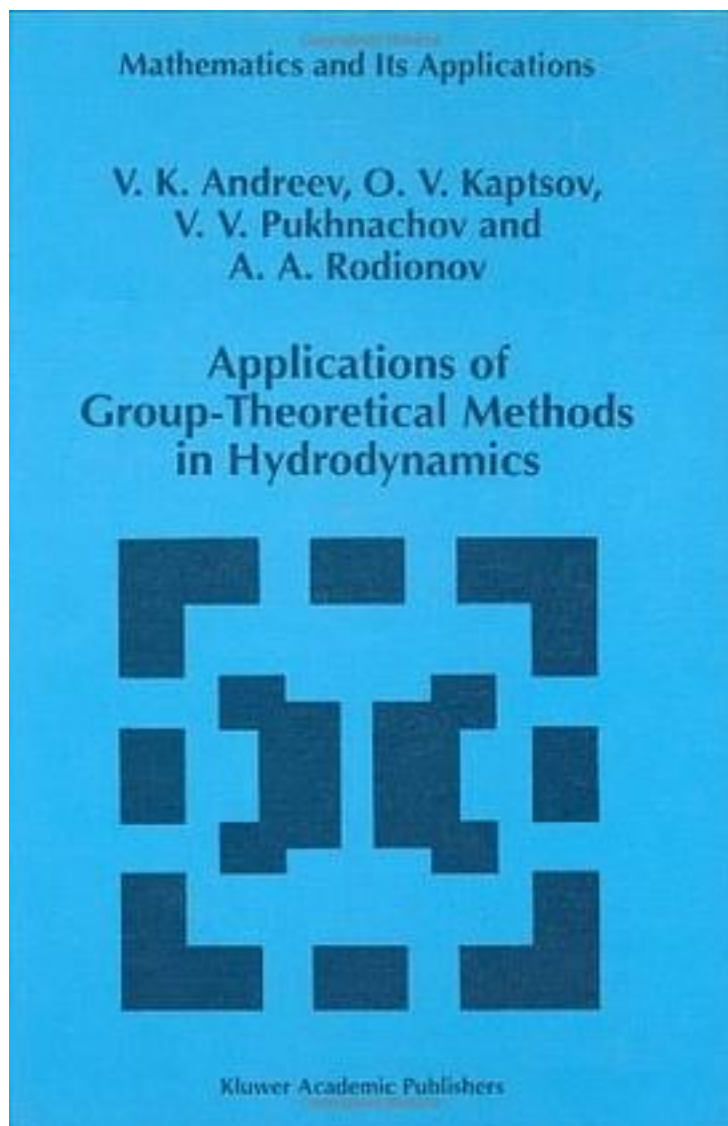# Applications of Group-Theoretical Methods in Hydrodynamics

Applications of Group-Theoretical Methods in Hydrodynamics_下载链接1_

著者:Andreev, V. K. (EDT)/ Kaptsov, O. V./ Pukhnachov, V. V./ Rodionov, A. A./ Andreev, V. K.

出版者:Kluwer Academic Pub

出版时间:1998-10

装帧:HRD

This book presents applications of group analysis of differential equations to various models used in hydrodynamics. It contains many new examples of exact solutions to the boundary value problems for the Euler and Navier-Stokes equations. These solutions describe vortex structures in an inviscid fluid, Marangoni boundary layers, thermal gravity convection and other interesting effects. Moreover, the book provides a new method for finding solutions of nonlinear partial differential equations, which is illustrated by a number of examples, including equations for flows of a compressible ideal fluid in two and three dimensions. The work is reasonably self-contained and supplemented by examples of direct physical importance. Audience: This volume will be of interest to postgraduate students and researchers whose work involves partial differential equations, Lie groups, the mathematics of fluids, mathematical physics or fluid mechanics.

作者介绍:

目录:

Applications of Group-Theoretical Methods in Hydrodynamics_下载链接1_

标签

mathematics

fluid

评论

Applications of Group-Theoretical Methods in Hydrodynamics_下载链接1_

书评

Applications of Group-Theoretical Methods in Hydrodynamics_下载链接1_