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REVIEWS

SHORTER NOTICES

Introduction to the Hydrodynamics of Porous Bodies. By ST I. GHEORGHITA. Academic edition of the Rumanian Socialist Republic, 1969. 210 pp.

This book is in Rumanian, with an English summary. It concerns mainly the flow of incompressible fluid past porous bodies, and particular attention is devoted to the changes that result in the flow patterns past such bodies as a sphere and a cylinder, when effects of the porosity are included. After a general introductory chapter, there are three chapters on perfect fluid flow, slow viscous flow, and flow past thin porous bodies. There are five diagrams, and somewhat more than 700 equations.

Clear Air Turbulence. By N. K. VINNICHENKO, N. Z. PINUS, S. M. SHMETER and G. N. SHUR. Hydrometeorological Publishing House, 1968. 336 pp.

This is an authoritative-looking research monograph (in Russian), devoted to the experimental study of turbulence in the troposphere and stratosphere. The publishers' blurb says that it is 'intended for the specialists engaged in the atmospheric physics and aerodynamics, for the aircraft designers and the people in charge of aviation meteorological service'.

Dynamics of Elastic Containers Partially Filled with Liquid. By I. M. RAPOPORT. Translated from the Russian by Scripta Technica Inc. Springer Verlag, 1968. 368 pp. $14.80.

Volume 5 in the series 'Applied Physics and Engineering'. The topic is very specialized and has been largely developed in the Soviet Union. This book gives a rather detailed and formal account of the mathematical foundations of the subject. There are three diagrams, and rather more symbols than words. The translator may have rejoiced at this, but the reader will not. Equation (3.6.24) spans three pages, and is not unusual in this respect. The book is altogether manipulative, and there is no physical discussion of the formulae that are derived.

Directory of Fire Research in the United States, 1965–1967. Publication 1590 of the National Academy of Sciences, 1968. 267 pp. $7.00.

Brief descriptions of projects on fire research in Federal, military, university and industrial laboratories in the U.S.A. The projects range from some which have a very fluid mechanical flavour, such as the project on 'The effect of wind on flames' undertaken at the University of Oklahoma Research Institute, to others which lie right outside fluid mechanics, for example 'A study of telegraph and telephone type fire alarm systems with respect to malicious false alarm incidents' (University of Maryland, College of Engineering).

Thermodynamic Tables in S.I. (Metric) Units. By R. W. HAYWOOD. Cambridge University Press, 1968. 42 pp. 12*s*.

This booklet has been prepared primarily for the use of University Engineering Departments and Technical Colleges, and contains tables in S.I. units under the following headings: thermochemical tables, steam tables, refrigerant tables, air at low temperatures, transport properties of various fluid. It includes conversion factors to other metric units and to British units.

Proceedings of the Summer Seminar in Fluid Mechanics. Edited by P. L. BHATNAGAR. Nallaris Printers, Bangalore, 1968. 482 pp. 45*s*. or $6.00.

A paperback volume containing the 20 invited papers and 18 contributed papers presented at the summer seminar in fluid mechanics, held from 24 to 30 May 1967 at the Indian Institute of Science, Bangalore. A special part of the seminar was devoted to the theory of non-Newtonian fluids and about one-third of the volume concerns this topic. The remaining two-thirds touches on almost every aspect of conventional fluid dynamics.

Proceedings of the 16th Japan National Congress for Applied Mechanics 1966. Central Scientific Publishers, Tokyo. 375 pp.

The 16th Japan National Congress for Applied Mechanics was held at the University of Tokyo, 19–20 October 1966. One hundred and two papers were presented, in the fields of solid mechanics, fluid mechanics, control theory, etc. Of these, 52 were selected by an editorial committee for publication in this volume. About 12 are concerned with strictly fluid dynamical topics and the emphasis in these is on aerodynamical applications. The complete proceedings are in English.

Numerical Methods in Engineering, Volume I, No. 1. Edited by O. C. ZIENKIEWICZ and R. H. GALLAGHER. John Wiley, 1969. 133 pp.

This is the first part of a new journal which will be published in four parts per volume, the parts appearing quarterly. The subscription price will be £10 ($24) per volume of 400 pages. The aims and scope of the journal are defined on the inside cover as follows: 'The digital computer has placed in the hands of engineers a powerful tool. Many real problems of engineering, previously intractable, can now be solved. At the present time, papers dealing with the application of such methods are scattered amongst many journals each dealing with its own specialized professional field. The general numerical methods often cut across professional boundaries, and the new journal provides a common platform for presentation of papers and exchange of views in this rapidly growing field. Such subjects as structural analysis, heat transfer, fluid mechanics, network theory, electronics and optimal system design have much to benefit by cross-fertilization. The general aspects of computer-aided design activity clearly fall within the scope of the journal. The trend in many scientific journals of a trivial "closed form" solution in preference to the more general if mathematically less