REVIEWS

SHORTER NOTICES

Fluides Relativistes. By H. ARZELIÈS. Masson et Cie, 1971. 209 pp. 80 F.

The subtitle of this paperback is 'principes généraux, équations fondamentales', and this just about describes it. The discussion centres on the derivation of relativistically correct equations for ideal fluids. But there is little help for the non-relativistic reader who aims to discover under what conditions non-relativistic theories may be expected to be inadequate.

Aerodynamik des Flugzeuges, Band II. 2nd edition. By H. SCHLICHTING and E. TRUCKENBRODT. Springer-Verlag, 1969. 514 pp. DM 76 or $19.00.

According to the authors' preface, the first edition of 1960 (reviewed in *Journal of Fluid Mechanics* 13, 1962, 313) has been brought up-to-date by inclusion of several new results of theory and experiment in the field of airplane aerodynamics.

Radiation Heat Transfer. By E. M. SPARROW and R. D. CESS. Brooks/Cole Publishing Co. 1970. 340 pp.

This is a revised second edition of a book first published in 1966, by two authors well known in the field of heat transfer. There is one chapter on combined convection and radiation in fluids.

Solid–Liquid Flow Abstracts. 3 volumes. Compiled by G. F. ROUND. Gordon and Breach, 1969. 1046 pp. £45 or $108.

The first two volumes contain brief abstracts of 2727 papers on different aspects of solid–liquid flow in pipes, tubes and capillaries published prior to 1966. The abstracts are arranged in alphabetical order of the (first-named) author, and are clearly set out. Volume three contains supplementary material: explanatory preface, list of journals searched, an author index (needed for second-named authors) and a valuable subject index. The publishers propose to produce a journal of the same name which will provide a continuing abstract service in this field.

Anwendung von Ähnlichkeitstransformationen auf Kanalströmungen der Magnetogasdynamik. By DIETMAR FLORIANI. University of Innsbruck Press, 1971. 78 pp. S 198.

This paperback, photo-offset production is concerned with magnetogasdynamic flow in ducts. It will be of interest to specialists in the field who read German.

Proceedings of the 12th International Congress of Applied Mechanics, Stanford University, August 1968. Edited by M. HETENYI and W. G. VINCENTI. Springer-Verlag, 1969. 420 pp.

This volume contains an introductory address by N. J. Hoff, President of the Organizing Committee, four general lectures, two in French, two in English, 26

contributed papers and a list of the titles and authors of some 250 other contributed papers. The papers are not to be published elsewhere; moreover, those printed were all subjected to an elaborate selection process, so that the overall standard is high. On the other hand, since the papers had to be submitted in 1967 or early in 1968, much of the work already has a dated flavour. Volumes of this kind inevitably tend to have a commemorative character, and their real scientific value is not in proportion to the expense involved.

Proceedings of the 18th Japan National Congress for Applied Mechanics, 1968. Published by Science Council of Japan, 1970. 188 pp.

National congresses of theoretical and/or applied mechanics (who knows what *applied* mechanics means nowadays?) are now common, and nowhere are they more frequent than in Japan. This volume records (in English) 20 of the 80 papers given at the 18th Japan Congress, about half being on various aspects of fluid mechanics.

Proceedings of the Second International Conference on Numerical Methods in Fluid Dynamics. Edited by M. HOLT. Springer-Verlag, 1971. 462 pp. DM 28 or $7.70.

Sixty-five papers of the conference held at Berkeley in September 1970 are printed here in full. The authors represent a variety of countries and interests. Some of the papers consider fundamental numerical techniques, but the majority concentrate on applications to problems of viscous flows, and both incompressible and compressible flows. The papers are comfortably short and taken with the references at the end of each paper give a good indication of present day research interests of numerical fluid dynamicists.

Geophysical Fluid Dynamics. Gordon and Breach. Price per volume of four issues £15.50 (in U.K.) or $41.00.

The first issue of Geophysical Fluid Dynamics appeared in April 1970. Edited by Professor A. R. Robinson of Harvard University, its stated aims are to publish original contributions and occasional review articles 'on the dynamics of the atmospheres of the earth and other planets and of the ocean'. The impression given by the editors is that the journal will cater for a wide range of work: theoretical, numerical and both field and laboratory experiments. The first few issues contain a number of rather interesting and stimulating papers.

Handbook of Elliptic Integrals for Engineers and Scientists. 2nd edition. By P. F. BYRD and M. D. FRIEDMAN. Springer-Verlag, 1971. 358 pp. DM 64 or $17.60.

After a short introduction presenting the graphs of some of the elliptic functions but no theory beyond that needed to understand the notation, a large number of integrals, both definite and indefinite, are tabulated. Twenty-eight pages of tables to six significant figures are included at the end. This second edition corrects some errors in the first edition and differs from it only in this way.