New and recent books from Wiley-Interscience

SHOCK WAVES IN COLLISIONLESS PLASMAS

By Derek A. Tidman, University of Maryland and Nicholas A. Krall, University of Maryland and Naval Research Laboratory, Washington, D.C.

A volume in the Wiley Series in Plasma Physics, edited by Sanborn C. Brown

In Shock Waves in Collisionless Plasmas, the authors have gathered and organized the large body of knowledge on collision-free plasmas.

After reviewing the classification and conservation relations of shock transitions, the authors proceed to a detailed discussion of the properties of laminar magnetosonic, oblique whistler, and electrostatic shocks. The dissipative role of microturbulence is discussed and some attention is also given to the problem of completely turbulent shocks. Throughout, numerous lucid illustrations supplement the text.

1971 175 pages \$10.50

INTRODUCTION TO MATHEMATICAL FLUID DYNAMICS

By Richard E. Meyer, University of Wisconsin, Madison

The most recent volume in Pure and Applied Mathematics: A Series of Texts and Monographs, edited by R. Courant, L. Bers, and J. J. Stoker

The author presents an upper-level introduction to the concepts which form the physical and mathematical core of fluid mechanics.

Contents: Preface. Acknowledgements. Kinematics. Momentum Principle and Ideal Fluid. Newtonian Fluid. Fluids of Small Viscosity. Some Aspects of Rotating Fluids. Some Effects of Compressibility. Bibliography. Index.

October, 1971 Approx. 309 pages In Press

WILEY-INTERSCIENCE

a division of John Wiley & Sons, Inc. 605 Third Avenue, New York, New York 10016

In Canada:

22 Worcester Road, Rexdale, Ontario

Plasma Physics 6, 2

REACTIONS UNDER PLASMA CONDITIONS

Volumes I and II

Edited by M. Venugopalan, Western Illinois University

Reactions Under Plasma Conditions is the first comprehensive survey of the fundamental physical theories and properties of the plasma state of matter, the types of reactions that can be achieved in this medium, and the practical methods that can be applied for their investigation in both natural and laboratory plasmas. All topics covered are of major significance to plasma chemists and plasma physicists. In Volume I emphasis is placed on plasma physics and plasma diagnostics. Volume II stresses the chemical physics of plasmas. Together, both volumes provide the plasma scientist with a timely source of coordinated information.

> Volume I: 1971 608 pages \$29.95 Volume II: 1971 624 pages \$29.95

ADVANCES IN PLASMA PHYSICS

Volume 4

Edited by Albert Simon, University of Rochester and William B. Thompson, University of California at San Diego

Contents: The Interpretation of Plasma Resonances Observed by lonospheric Topside Sounders - J. P. Dougherty and S. R. Watson. Two-Stream Instabilities - Richard J. Briggs. Cusp Containment - lan Spalding. Relativistic Beam Equilibria - Gregory Benford and David L. Book. Plasma Collective Modes Involving Geometry and Velocity Spaces - B. Coppi. Physics of Colloidal Plasmas - M. S. Sodha and S. Guha. The Motion of a Charged Particle in a Strong Magnetic Field - Ira B. Bernstein. Author Index. Subject Index. Cumulative Index, Volumes 1-4.

1971 352 pages \$19.95

PHASE-SPACE DYNAMICS OF PARTICLES

By Allan J. Lichtenberg, University of California, Berkeley

'This is a unique book indispensable for the physicist concerned with accelerators or plasma physics. Going well beyond the cliché 'filling of a gap'' in the literature, it ties together many islands of physics that previously have been documented only in rather limited ways.' *Physics Today*

1969 331 pages \$16.50

Continued from back cover

Electrostatic waves in periodic inhomogeneous plasma P. BERTRAND, M. R. FEIX and G. BAUMANN	page 351
Cyclotron radiation in hot magnetoplasmas J. TRULSEN	367
Non-linear theory of hydromagnetic waves in a high β plasma M. DOBROWOLNY and A. ROGISTER	401
E-layer precession in a plasma H. L. BERK and R. N. SUDAN	413
Kinetic theory of a two-dimensional magnetized plasma G. VAHALA and D. MONTGOMERY	425
REVIEW Reviews of Plasma Physics, by M. A. Leontovich	441

J. Plasma Phys.

JOURNAL OF PLASMA PHYSICS

Vol. 6 Part 2 October 1971

CONTENTS

Stability of anisotropic plasma jet		
M. R. RAGHAVACHAR	page	237
Adiabatic transverse waves in a conducting gas B. ROBERTS and C. SOZOU		249
Identities between reflection and transmission coefficients and electric field components for certain anisotropic modes of obli- propagation J. HEADING		257
A singular perturbation analysis of theoretical models for warm inhomogeneous plasmas R. M. MIURA and E. M. BARSTON		271
Magnetogasdynamic shock polar for aligned fields Y. M. LYNN		283
Wave-particle interactions in electrostatic waves in an inhomogeneous medium D. NUNN		291
Propagation of Alfvén waves in ion-sound turbulent plasma A. ROGISTER		309
Non-linear interaction of electrostatic monochromatic waves in a magnetoplasma		
J. A. TATARONIS and J. TEICHMANN		325
On some similarity solutions in magnetohydrodynamics c. sozou	1	331
Thermal and collisional corrections to the ordinary wave F. N. ARUMI and M. E. OAKES		343

Continued on inside back cover

1

© Cambridge University Press, 1971

CAMBRIDGE UNIVERSITY PRESS

BENTLEY HOUSE, 200 EUSTON ROAD, LONDON NW1 2DB AMERICAN BRANCH: 32 EAST 57TH STREET, NEW YORK, N.Y.10022

Annual subscription £24.00 net in U.K. (\$75.00 in U.S.A.)

Printed in Great Britain at the University Printing House, Cambridge