

## New McGraw-Hill Literature in Science

### SPACE ASTROPHYSICS

By William Liller, Harvard College Observatory. Ready this month.

This book is the product of a lecture series given at the University of Michigan Department of Astronomy during the 1959-60 academic year on the aspects of astronomy and astrophysics which are concerned with or can be studied from outer space. Many of these lectures by leading space scientists are made available to students and scientists here for the first time.

### THE PHYSICAL UNIVERSE

By Konrad B. Krauskopf, Stanford University, and Arthur Beiser, New York University. 576 pages, \$6.50. (Text Edition.)

A simple, clear, and concise presentation of the fundamental ideas of physical science. Aimed at the abbreviated courses in physical science, and the courses for students with little or no background in science, the text emphasizes basic concepts without undue attention to their technological applications. Outstandingly well ordered and prepared format and text.

### THE WORLD OF PHYSICS

By Arthur Beiser, New York University. 288 pages, \$4.25, cloth bound; \$2.75, paper bound.

A broad collection of 15 relatively non-technical readings from world famous physicists of yesterday and today designed to communicate to the reader the excitement and adventure in the World of Physics. Various aspects of physics which are generally not included in textbooks are presented: historical, biographical, philosophical, its promise for the future. The physicists' view of physics as written by the leaders and innovators from Galileo to the Moderns.

### PLASMA PHYSICS

By James E. Drummond, Boeing Scientific Research Laboratories. 400 pages, \$12.50.

Based on the recent conference in Plasma Physics conducted at the Stanford Research Institute, this text provides an extensive review of some of the important special areas in plasma physics such as quantum plasma physics, detailed statistical mechanics of plasmas and aerodynamic aspects of magnetohydrodynamics. Emphasis throughout is on the unsolved problems in plasma physics.

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by well-chosen diagrams. The short bibliography at the end contains references as late as 1959 and includes German, French, and American works on noise and its control.

**Mechanics and Properties of Matter** (2nd ed.). By Reginald J. Stephenson. 367 pp. John Wiley & Sons, Inc., New York, 1960. \$7.50. Reviewed by T. Teichmann, General Atomic, Division of General Dynamics Corporation.

NEWTONIAN mechanics forms the basis for a large portion of classical physics, and engineering, and this book presents and develops the connection at the undergraduate level. The contents are not quite as ambitious as the title might lead one to think; some aspects of the mechanical behavior of solids, liquids, and gases are discussed, but not the "properties" of materials as they are usually understood these days.

All the standard topics are clearly discussed, including Newton's laws, gravitational attraction, relative motion, and elliptic orbits for particle motion; rigid mechanics; oscillations of systems of particles and elastic substances; and statics and elementary hydrodynamics. There are a number of examples in the text and the general treatment encourages the reader to work out the numerous examples at the end of the various chapters.

Special attention is given to a variety of problems not usually encountered in such detail in such a text. These include the transformations of special relativity, the scattering of nuclear particles, a detailed discussion of the rotation of rigid bodies, including Euler's equations and their application to the spinning top, and dimensional analysis.

The presentation is carried out in such a way that more advanced study of classical mechanics will not require a complete reorientation of the student, and the book should prove useful to both science and engineering undergraduates.

**Graphite and Its Crystal Compounds.** By A. R. Ubbelohde and F. A. Lewis. 217 pp. Oxford U. Press, New York, 1960. \$5.60. Reviewed by Stuart A. Rice, Institute for the Study of Metals, The University of Chicago.

IN many courses in elementary (and even advanced) chemistry the student is led to believe that graphite is an inert form of carbon, somewhat related in electronic structure to aromatic molecules, but of little chemical interest in its own right. This very clearly written book should do much to rectify the situation. I have read it not as an expert on graphite (which I am not), but as a chemist interested in the properties of condensed matter. Not only have I learned many surprising facts, but also have had many ideas for research problems suggested by the material presented.

The text is divided into nine chapters, four devoted to pure graphite and the remaining five to compounds of graphite and their properties. In all instances, the