

tion of Massey's vast influence in making University College London, and the University of Belfast, Northern Ireland, centers of research in atomic and molecular physics.

The distribution of papers also reflects Massey's wide ranging interests. Six are theoretical, three experimental and three deal with applications of atomic physics to astrophysics, the ionosphere and the ionization processes in space. The 13th article is partly experimental and partly theoretical in nature. The articles are intended for the mature practitioner. I found that those articles somewhat away from my field of expertise were very tough sledding indeed. The principal value that any one of the papers would have for a beginner is the excellent bibliographies included with each article.

The volume is in the tradition of the previous books in this series, which it complements. It is an authoritative review of some important areas of current research in atomic physics, notably those areas in which Massey was interested and made an impact. It is a volume of which he could indeed be proud.

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Layman's technology

GIANT MOLECULES: THE TECHNOLOGY OF PLASTICS, FIBERS AND RUBBER. By Morris Kaufman. 187 pp. Doubleday, New York, 1968. Cloth \$5.95, paper \$2.45

LASERS: TOOLS OF MODERN TECHNOLOGY. By Ronald Brown, 192 pp. Doubleday, New York, 1968. Cloth \$5.95, paper \$2.45

by RICHARD B. ZIPIN

These two new books in the Doubleday Science Series thoroughly treat their respective subjects in easy-to-understand layman's language.

Giant Molecules by Morris Kaufman discusses the chemistry of polymers, their manufacture, their products and the applications of these products. The author gives his non-technically trained readers a good feel for the business of technology, telling them of men responsible for the devel-

opment of plastics, besides discussing the technology itself.

Much the same can be said of *Lasers* by Ronald Brown, which treats the various types of lasers and their applications in communications, holography, medicine, measurements and metalworking.

Both books are interesting reading and have an identical format that contains no references and only very short bibliographies and indexes. But they are attractively illustrated, containing numerous figures, many in full color. They can be recommended as suitable reading for bright high-school students and other laymen interested in an overview of each subject.

For the plasma shelf

ADVANCES IN PLASMA PHYSICS: VOL. 1. Albert Simon, William B. Thompson, eds. 340 pp. Wiley (Interscience), New York, 1968. \$14.95

by B. SAMUEL TANENBAUM

The new editors of the *Reviews of Modern Physics* have correctly stated "In a time when most of our colleagues express the desire to read good reviews, a diminishing fraction seems willing to devote the time and effort to write them." Hence it is a pleasure to welcome the appearance of *Advances in Plasma Physics: Volume 1*, edited by Albert Simon and William B. Thompson.

This volume has a format familiar to readers of other "reviews" and "advances" series. It consists of six individual articles ranging in length from 25 to 104 pages. Two of the articles, on "Plasma in the Magnetosphere" by Frederick L. Scarf and "The Plasma MHD Power Generator" by Thomas R. Brogan, are authoritative summaries of experimental data that make some comparison with theory and provide voluminous references. The Scarf article succeeds in organizing a large amount of recent, often confusing, experimental findings into some semblance of order. Brogan's long paper emphasizes the hard-to-find engineering details of practical MHD generator design.

Another paper on "Minimum-Average-B Stabilization of Toruses" by Harold P. Furth, is an elegant, well referenced, essentially nonmathematical survey of the theory and use of this

The authors are to be commended because these books will certainly be read and understood by young students and may well inspire some of them to pursue technical careers. Although neither author states his purpose in writing the book, no better purpose could have been sought in such a time as now, when so many more scientists and engineers are required in our ever increasingly complex world.

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The reviewer is engaged in the application of laser interferometers as position-measurement devices on large coordinate-measuring machines at the Bendix Corp.

important fusion-confinement scheme. Unfortunately the audience for this article is limited by the author's assumption that the reader is already familiar with the array of plasma instabilities that are so disastrous to present fusion devices. (Papers surveying both the overall status of the fusion program and our present knowledge about instabilities would have been highly desirable additions to this volume.)

The remaining three articles, "Radiation from Plasmas" by John M. Dawson, "Drift Waves" by Nicholas A. Krall and "Thermodynamics of Unstable Plasmas" by T. Kenneth Fowler are tutorial papers treating specific aspects of plasma-physics theory. Of the three, the article by Dawson makes the best reading. Although he limits his discussion by omitting cyclotron and synchrotron radiation, the material covered is treated with clarity and sufficient detail to satisfy the needs of an advanced graduate student or an instructor using the material in a plasma-physics course. The other two articles are shorter and less successful in this respect, and I suspect their use will be more limited.

In all, the editors are to be congratulated for initiating this series and for obtaining articles from well recognized researchers in plasma physics. (An indication of their success in obtaining manuscripts is that the second and third volumes of the series are both scheduled for publication later this year.) One cannot help wishing that the entire volume were more comprehensive in its coverage and more uni-