BOOKS RECEIVED

ACOUSTICS

Elements of Acoustics. By J. Blitz. 136 pp. Butterworths, Washington, D.C., 1964, \$4.25.

ASTRONOMY & ASTROPHYSICS

The Physics and Astronomy of Meteors, Comets, and Meteorites. By Gerald S. Hawkins. 134 pp. McGraw-Hill, New York, 1964. Paper \$2.50.

ATOMIC & MOLECULAR PHYSICS

Atomic Spectra and the Vector Model. (2nd ed.) By Chris Candler. 412 pp. Van Nostrand, Princeton, N. J., 1964. \$18.50.

BIOPHYSICS & MEDICAL PHYSICS

The Structure and Properties of Biomolecules and Biological Systems. J. Duchesne, ed. 754 pp. Interscience, New York, 1964. \$27.50.

Structure and Function in Biological Membranes, Vol. 1. By J. Lee Kavanau. 321 pp. Holden-Day, San Francisco, 1965. \$10.95.

Progress in Biophysics and Molecular Biology, Vol. 13. J. A. V. Butler, H. E. Huxley and R. E. Zirkle, eds. 328 pp. (Pergamon, Oxford) Macmillan, New York, 1963. \$13.00.

Biological Effects of Magnetic Fields. Madeleine F. Barnothy, ed. 324 pp. Plenum Press, New York, 1964, \$16.00.

CHEMISTRY & CHEMICAL PHYSICS

Solid Surfaces. Conf. Proc. (Providence, R. I., June 1964) Harry C. Gatos. ed. 577 pp. North-Holland, Amsterdam, 1964. \$18.50.

Electronic Structure and Chemical Bonding. By Donald K. Sebera. 298 pp. Blaisdell, New York, 1964. Paper \$3.50.

EDUCATION

A Handbook for Technical Typists. By Nelson James Dunford. 136 pp. Gordon & Breach, New York, 1964. \$5.75.

ELECTRICITY & MAGNETISM

Investigations into Electrical Discharges in Gases. B. N. Klyarfel'd, ed. Transl. from Russian by D. Cossutta. Transl. edited by T. R. Foord. 283 pp. (Pergamon, Oxford) Macmillan, New York, 1964. \$12.00.

ELECTRONICS

Physical Electronics. By G. F. Alfrey. 220 pp. Van Nostrand, Princeton, N. J., 1964. \$8.50. Pulse Electronics. By Raphael Littauer. 530 pp. McGraw-Hill, New York, 1965. \$12.75.

EXPERIMENTAL TECHNIQUES

Photographie Corpusculaire III. Pierre Demers, ed. 506 pp. Les Presses Universitaires de Montréal, Montréal, 1964. \$10.00 Canadian.

Handbook of Analytical Design for Wear, C. W. MacGregor, ed. 97 pp. Plenum Press, New York, 1964. \$12.50.

HANDBOOKS, TABLES, ETC.

Guide to Gas Chromatography Literature. by Austin V. Signeur. 351 pp. Plenum Press, New York, 1964. \$12.50.

Directory of Nuclear Reactors. Vol. 5, Research, Test and Experimental Reactors. 326 pp. International Atomic Energy Agency, Vienna, 1964. \$7.00.

Handbook of Applied Hydrology. A Compendium of Water-resources Technology. Ven Te Chow, ed. 20 Chapters. McGraw-Hill, New York, 1964, \$39.50.

Thermal Radiative Properties. Plenum Press Handbooks of High-Temperature Materials, No. 3. By W. D. Wood, H. W. Deem, and C. F. Lucks. 470 pp. Plenum Press, New York, 1964, \$17.50.

Units of Measurement of Physical Quantities. By A. G. Chertov. Transl. by Scripta Technica, Inc., English-language edition revised by Herbert J. Eagle. 165 pp. Hayden Book Co., New York, 1964. Cloth \$4.75; paper \$2.95.

HISTORY & PHILOSOPHY OF SCIENCE

Analytic and Vector Mechanics. By Hiram W. Edwards. (Reprint of 1933 ed.) 428 pp. Dover, New York, 1964. Paper \$2.00.

Contemporary Physics. By David Park. 177 pp. Harcourt, Brace & World, New York, 1964. Cloth \$4.95; paper \$2.45.

The Atomic Adventure. Its Political and Technical Aspects. By Bertrand Goldschmidt. Transl. from French by Peter Beer. 259 pp. (Pergamon, Oxford) Macmillan, New York, 1964. Paper \$4.50.

The Ambidextrous Universe. By Martin Gardner. 294 pp. Basic Books, New York, 1964. \$5.95.

A New System of Chemical Philosophy. By John Dalton. 168 pp. (Reprint of 1808 ed.) Philosophical Library, New York, 1964. \$6.00.

Atoms, Molecules and Quanta. By Arthur Edward Ruark and Harold Clayton Urey. (Reprint of 1930 ed.) Vol. 1, 447 pp; vol. 2, 362 pp. Dover, New York, 1964. Both paper, \$2.50 per volume.

The Treasury of Mathematics. Henrietta O. Midonick, ed. 820 pp. Philosophical Library, New York, 1965. \$15.00.

Listen to Leaders in Science. Albert Love and James Saxon Childers, ed. 278 pp. Tupper and Love, Atlanta. Distr. by David McKay, New York, 1965. \$5.50.

Sonne steh still: 400 Jahre Galileo Galilei. Ernst Brüche, ed. 147 pp. Physik Verlag, Mosbach, Germany, 1961. DM 16.80.

The Research State: A History of Science in New Jersey. By John R. Pierce and Arthur G. Tressler. 165 pp. Van Nostrand, Princeton, N. J., 1964, \$3.95.

SOLID STATE PHYSICS

Physical Electronics and Circuit Models of Transistors. By Paul E. Gray, David DeWitt, A. R. Boothroyd, and James F. Gibbons. 262 pp. Wiley, New York, 1964. Cloth \$4.50; paper \$2.65.

Single-Crystal Films. Conf. Proc. (Blue Bell, Pa., May 1963) Maurice H, Francombe and Hiroshi Sato, eds. 420 pp. (Pergamon, Oxford) Macmillan, New York, 1964, \$14,50.

Semiconductor Devices. By James J. Brophy. 130 pp. McGraw-Hill, New York, 1964. Paper \$2.95.

Semiconductors. By Horst Teichmann. Transl. by L. F. Secretan. 139 pp. Butterworths, Washington, D. C., 1964. \$4.25.

Theory of Crystal Dislocations. By A. H. Cottrell. 91 pp. Gordon & Breach, New York. 1964. Cloth \$4.50; paper \$2.50.

The Direct Observations of Dislocations. By S. Amelinckx, 487 pp. Academic, New York, 1964, \$17.00.

Theoretische Festkörperphysik, Vol. I. By Albert Haug. 518 pp. Franz Deuticke, Vienna, 1964.

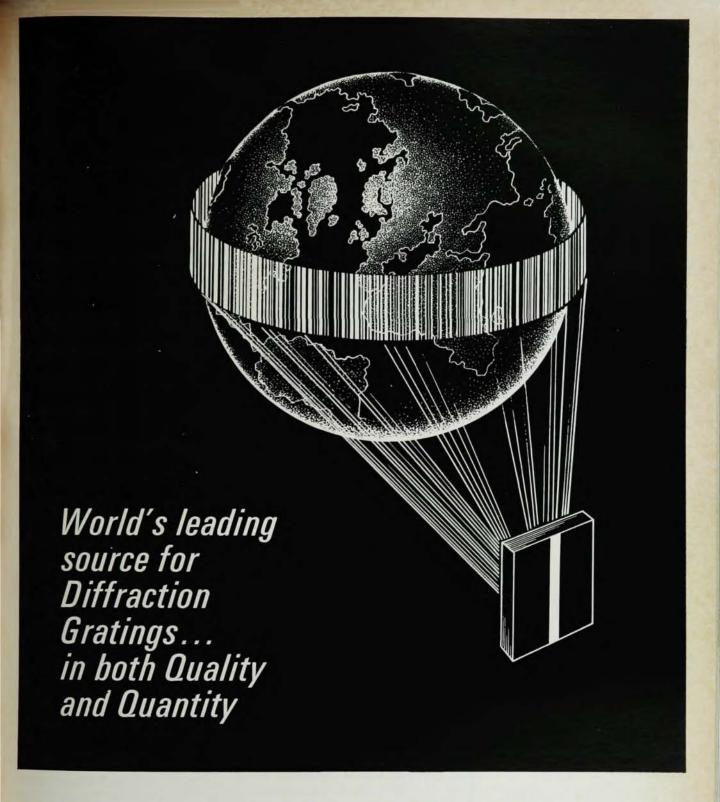
SPACE SCIENCES & AERODYNAMICS

Nuclear Energy in Space. By Erik S. Pedersen. 516 pp. Prentice-Hall, Englewood Cliffs, N.J., 1964. \$19.95.

The Flight of Uncontrolled Rockets. By F. R. Gantmakher and L. M. Levin. Transl. from Russian by O. M. Blunn. Transl. edited by W. G. Hughes. 379 pp. (Pergamon, Oxford) Macmillan, New York, 1964, \$15.00.

TEXTBOOKS

Physique appliquée à la Reproduction des Sons et des Images. Vol. 1, Acoustique—Electroacoustique, Enregistrement et Reproduction des Sons. By A. Didier. 271 pp. Masson et Cie, Editeurs, Paris, 1964, 46 F.



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STANFORD UNIVERSITY PRESS Solar System Astrophysics. By John C. Brandt and Paul W. Hodge. 457 pp. McGraw-Hill, New York, 1964. \$12.50.

Electromagnetic Fields and Interactions, Vol. 1, Electromagnetic Theory and Relativity. By Richard Becker. Fritz Sauter, ed. 439 pp. Blaisdell, New York, 1964. \$9.50.

Electromagnetic Fields and Interactions. Vol. 2, Quantum Theory of Atoms and Radiation. By Richard Becker. Fritz Sauter, ed. Transl. by Ivor De Teissier. 403 pp. Blaisdell, New York, 1964, \$9.50.

Principles of Quantum Mechanics. By D. I. Blokhintsev. Transl. by Scripta Technica. Sven Bjorklund, ed. 620 pp. Allyn and Bacon, Boston, 1964. \$12.95.

Selected Experiments in Physical Chemistry. By J. L. Latham, D. A. Jenkins, and G. R. H. Jones. 124 pp. Butterworths, London, 1964. Paper \$2.50.

Matter and Energy. The Foundations of Modern Physics. By James H. MacLachlan, K. G. McNeill, and John M. Bell. 408 pp. Noble and Noble, New York, 1964. \$5.48.

Exploration of the Universe. By George Abell. 646 pp. Holt, Reinhart, and Winston, New York, 1964. \$9.50.

Einführung in die Physik der Atome. (2nd ed.) By K. H. Hellwege. 162 pp. Springer-Verlag, Berlin and New York, 1964. Paper DM 8.80.

Theoretical Physics. By A. S. Kompaneyets. Transl. from Russian by George Yankovsky. 592 pp. Gordon & Breach, New York, 1964. \$9.50.

Elementary Classical Physics. Vol. 1, Mechanics, Kinetic Theory, Thermodynamics. By Richard T. Weidner and Robert L. Sells, 640 pp. Allyn and Bacon, Boston, 1965. \$7.75.

Thermodynamics. By I. P. Bazarov. Transl. by F. Immirzi. Transl. edited by A. E. J. Hayes. 287 pp. (Pergamon, Oxford) Macmillan, New York, 1964. \$7.50.

Physics. Fundamentals and Frontiers. By Robert Stollberg and Faith Fitch Hill. 696 pp. Houghton Mifflin, Boston, 1965. \$6.80.

THEORETICAL PHYSICS

An Introduction to the Special Theory of Relativity. By Robert Katz. 132 pp-Van Nostrand, Princeton, N.J., 1964. Paper \$1.50.

Elements of Quantum Electrodynamics. By A. I. Akhiezer and V. B. Berestetskii. Transl. by Israel Program for Scientific Translations. (2nd ed.) 301 pp. Oldbourne Press, London. Distr. by Daniel Davey, New York, 1964. \$13.50.

The Eightfold Way. Murray Gell-Mann and Yuval Ne'eman, eds. 317 pp. Benjamin, New York, 1964. Cloth \$8.00; paper \$3.05

Die Relativitätstheorie Einsteins. By Max Born. 328 pp. Springer-Verlag, Berlin, 1964. Paper DM 10.80.