

representations of the Lorentz group. Character tables are supplied for the permutation group (up to S_7) as well as for the point groups. Included, as well, are abbreviated descriptions of all of the 230 crystallographic space groups.

When it comes to the applications of these groups to specific physical problems, the book seems at its very best. There are chapters discussing the application to normal modes of vibration, to electron energy levels in crystals, to equations invariant under the Euclidean group of motions and those invariant under the Lorentz group, to second order phase transitions, and to nuclear reactions, among others.

The book is suitable for a graduate-level course, and to this end, problems are provided to illustrate the subject matter. This course would have to follow a course in quantum mechanics, since the author assumes a knowledge of quantum mechanics throughout.

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New Books

Biological and Medical Sciences

Advances in Morphogenesis. vol. 1. M. Abercrombie and Jean Brachett, Eds. Academic Press, New York, 1961. 458 pp. Illus. \$12.50.

Advances in Thyroid Research. Transactions of the Fourth International Goitre Conference. Rosalind Pitt-Rivers, Ed. Pergamon, New York, 1961. 550 pp. Illus. \$20.

Annual Review of Plant Physiology. vol. 12. Leonard Machlis and Winslow R. Briggs, Eds. Annual Reviews, Palo Alto, Calif., 1961. 509 pp. Illus. + plates. \$7.

Antibiotica et Chemotherapia. vol. 9. O. Gsell and R. L. Mayer, Eds. Karger, New York, 1961. 188 pp. Illus. \$11.

Asphalts and Allied Substances. Their occurrence, modes of production, uses in the arts, and methods of testing. vol. 2, *Industrial Raw Materials*. Herbert Abraham. Van Nostrand, Princeton, N.J., ed. 6, 1961. 351 pp. Illus. \$10.75.

Atlas of Human Anatomy. Franz Frohse, Max Brodel, and Leon Schlossberg. Barnes and Noble, New York, ed. 6, 1961. 190 pp. Illus. \$2.95.

Basic Physiology. Fred E. D'Amour. Univ. of Chicago Press, Chicago, Ill., 1961. 664 pp. Illus. \$7.95.

A Biology of Crustacea. James Green. Quadrangle Books, Chicago, 1961. 195 pp. Illus. \$5.75.

Bird Study. Andrew J. Berger. Wiley, New York, 1961. 400 pp. Illus. \$9.

Cell Heredity. Ruth Sager and Francis J. Ryan. Wiley, New York, 1961. 422 pp. Illus. \$7.50.

Cell Mechanisms in Hormone Production and Action. Memoir of the Society for Endocrinology, No. 11. P. C. Williams and C. R. Austin. Cambridge Univ. Press, New York, 1961. 183 pp. Illus. + plates. \$7.50. Proceedings of a symposium held 3-4 May 1960.

Comparative Physiology of Carbohydrate Metabolism in Heterothermic Animals. Arthur W. Martin, Ed. Univ. of Washington Press, Seattle, 1961. 151 pp. Illus. + plates. Paper, \$3.50; cloth, \$4.50.

Dynamics of Even-Aged Forest Stands. M. S. Czarowski. Louisiana State Univ. Press, Baton Rouge, 1961. 145 pp. Illus. \$5.

Mathematics, Physical Sciences, and Engineering

Atomic Energy Waste. Its nature, use, and disposal. E. Glueckauf, Ed. Interscience, New York; Butterworths, London, 1961. 431 pp. Illus. \$14.

The Book on Games of Chance (Liber de Ludo Aleae). Gerolamo Cardano. Translated by Sydney H. Gould. Holt, Rinehart, and Winston, New York, 1961. 62 pp. Illus. \$1.50. Reprinted from *Cardano: The Gambling Scholar* (Princeton Univ. Press, 1953).

Dynamic Analysis of Machines. Joseph E. Shigley. McGraw-Hill, New York, 1961. 314 pp. Illus. \$7.50. Companion volume to Shigley's *Analysis of Mechanisms*, 1959.

Evaluation in Mathematics. Twenty-sixth yearbook. National Council of Teachers of Mathematics, Washington, D.C., 1961. 222 pp. Illus. \$3.

Fundamentals of Modern Physics. Robert Martin Wisberg. Wiley, New York, 1961. 742 pp. Illus. \$10.50.

Gases at High Densities and Temperatures. Yu. N. Ryabinin. Translated by H. K. Zienkiewicz. Pergamon, London, 1961. 60 pp. Illus. \$4.50.

General Relativity and Gravitational Waves. J. Weber. Interscience, New York, 1961. 207 pp. Illus. Paper, \$2.50; cloth, \$4.50.

Heat Transfer. Benjamin Gebhart. McGraw-Hill, New York, 1961. 464 pp. Illus. \$10.75.

An Introduction to the Principles of Communication Theory. John C. Hancock. McGraw-Hill, New York, 1961. 263 pp. Illus. \$9.50.

Mechanical Engineering Experimentation. G. L. Tuve. McGraw-Hill, New York, 1961. 524 pp. Illus. \$8.

Nuclear Reactor Theory. Garrett Birkhoff and Eugene P. Wigner, Eds. American Mathematical Soc., Providence, R.I., 1961. 344 pp. Illus. Proceedings of the society's 11th symposium in applied mathematics.

Partial Differential Equations and Continuum Mechanics. Rudolph E. Langer. Univ. of Wisconsin Press, Madison, 1961. 412 pp. Illus. \$5. Proceedings of an international conference conducted by the Mathematics Research Center at the University of Wisconsin, 7-15 June 1960.

Polymeric Materials. Charles C. Windig and Gordon D. Hiatt. McGraw-Hill, New York, 1961. 416 pp. Illus. \$12.

Powder Metallurgy. Werner Leszynski, Ed. Interscience, New York, 1961. 862

pp. Illus. \$25. Proceedings of an international conference held 13-17 June 1960; sponsored by the Metallurgical Society and the American Institute of Mining, Metallurgical, and Petroleum Engineers.

Principes de Radiocristallographie. Identification des corps de déterminations de leur structure par la diffraction des rayons X. Jean Barraud. Masson, Paris, 1960. 236 pp. Illus. NF. 42.

Problems in Quantum Mechanics. I. I. Gol'dman, V. D. Krivchenkov, V. I. Kogan, and V. M. Galitskii. Translated and edited by D. ter Haar. Academic Press, New York, 1961. 394 pp. Illus. \$12. Contains all the problems from the Gol'dman-Krivchenkov text, as well as a selection from the Kogan-Galitskii volume.

Radioactive Substances. Marie Curie. Philosophical Library, New York, 1961. 94 pp. Illus. \$2.75. A translation of the thesis presented to the Faculty of Science (Paris) by Marie Curie.

Semiconductor Devices and Applications. R. A. Greiner. McGraw-Hill, New York, 1961. 507 pp. Illus. \$12.50.

Space Astrophysics. William Liller, Ed. McGraw-Hill, New York, 1961. 280 pp. Illus. \$10. Fifteen lectures delivered at the University of Michigan, 1959-60.

Theory of Machines. pt. 1, *Kinematic Analysis of Mechanism*; pt. 2, *Dynamic Analysis of Machines*. Joseph Edward Shigley. McGraw-Hill, New York, 1961. 671 pp. Illus. \$11.50.

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Thermodynamics. With quantum statistical illustrations. P. T. Landsberg. Interscience, New York, 1961. 509 pp. Illus. \$14.50.

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Transistor Logic Circuits. Richard B. Hurley. Wiley, New York, 1961. 379 pp. Illus. \$10.

Treatise on Analytical Chemistry. vol. 1, pt. 2, *Analytical Chemistry of the Elements*. I. M. Kolthoff and Philip J. Elving, Eds. Interscience, New York, 1961. 492 pp. Illus.

Turbulence. Classic papers on statistical theory. S. K. Friedlander and Leonard Topper, Eds. Interscience, New York, 1961. 196 pp. Illus. \$6. Twelve papers reprinted from various sources, all published prior to 1950.

The Use of Organic Reagents in Inorganic Analysis. A. I. Busev and N. G. Polianskii. Translated from the Russian by J. T. Greaves. Pergamon, New York, 1960. 83 pp. \$3.50.

Vertebrate Biology. Robert T. Orr. Saunders, Philadelphia, Pa., 1961. 410 pp. Illus.

Vorlesungen Ueber Funktionalgleichungen und Ihre Anwendungen. J. Aczel. Birkhauser, Basel, Switzerland, 1961. 331 pp. DM. 37.50.

The World of Geology. L. Don Leet and Florence J. Leet, Eds. McGraw-Hill, New York, 1961. 271 pp. Illus. \$4.95.

X-ray Analysis of Organic Structures. S. C. Nyburg. Academic Press, New York, 1961. 446 pp. Illus. \$13.