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specific structures: face-centered cubic, hexagonal close-packed, body-centered cubic, ionic, layer and super-lattice structures. Two chapters are devoted to the basic properties of dislocations associated with their movement, such as intersections with other dislocations, jogs and multiplication of dislocations. Another chapter describes the geometry and properties of arrays of dislocations. Finally, the interaction between dislocations and imperfections in crystals, e.g., impurities, point defects and other dislocations, is described and related to the stress required to move dislocations through a crystal containing such imperfections.

The coverage is intended to be appropriate for a course at the undergraduate level. Nevertheless, a fairly extensive bibliography of books and research papers is to be found at the

end of each chapter. The author has drawn freely on the outstanding books by A. H. Cottrell and T. W. Read that were published over ten years ago, and the first ones in their field. On the whole the text is clearly written and the printing relatively free of typographical errors (although some were found on casual perusal). The drawings and photographs are of good quality. There is an adequate subject index but no author index. The book may be unhesitatingly recommended as an elementary survey of generally accepted concepts and observations about the properties, behavior and effects of dislocations, and as suitable supplementary reading for some of the more rigorous texts.

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BOOKS RECEIVED

NUCLEI

Criticality Control of Fissile Materials. Conf. proc. (Stockholm, Nov. 1966). International Atomic Energy Agency, Vienna, 1966. \$15.00.

FLUIDS & PLASMAS

Microwave Breakdown in Gases. By A. D. MacDonald. 201 pp. Wiley, New York, 1966. \$7.95.

The Theory of Hydrodynamic Stability. By C. C. Lin. (Reissue with corrections, of 1955 edition). Cambridge University Press, Cambridge, England, 1966. \$7.50.

SOLIDS

Irradiation Damage to Solids. By B. T. Kelly. 232 pp. Pergamon Press, Oxford, 1966. Paper \$4.50.

Single Crystal Diffractometry. By U. W. Arndt, B. T. M. Willis. 331 pp. Cambridge University Press, Cambridge, England, 1966. \$15.00.

Fundamental Phenomena in the Materials Sciences. Vol. 3: Surface Phenomena. Conf. proc. (Boston, Jan. 1965). L. J. Bonis, P. L. de Bruyn, J. J. Duga, eds. 230 pp. Plenum Press, New York, 1966. \$12.50.

CLASSICAL PHYSICS

Selected Readings in Physics: Kinetic Theory. Vol. 2, Irreversible Processes. S. G. Brush, ed. 249 pp. Wiley, New York, 1966. Paper \$4.95.

MATHEMATICS & MATHEMATICAL PHYSICS

Fourier Transforms and the Theory of Distributions. By J. Arsac. Trans. from French by A. Nussbaum, G. C. Heim. 318 pp. Prentice-Hall, Englewood Cliffs, New Jersey, 1966. \$14.00.

Analytic Functions. By M. A. Evgrafov. Trans. from Russian by Scripta Technica, Inc. 336 pp. Saunders, Philadelphia, 1966. \$6.00.

INSTRUMENTATION & TECHNIQUES

Communication Systems and Techniques. By M. Schwartz, W. R. Bennett, S. Stein. 608 pp. McGraw-Hill, New York, 1966. \$16.50.

COMPILATIONS

Scientific Research in British Universities and Colleges 1965-66. Vol. 1, Physical Sciences. British Information Service, New York, 1966. \$7.50.

HISTORY & PHILOSOPHY

Otto Hahn: A Scientific Autobiography. Trans. and ed. by W. Ley. 296 pp. Scribner's, New York, 1966. \$7.95.

Science in the Twentieth Century. R. Taton, ed. Trans. from French by A. J. Pomerans. 638 pp. Basic Books, New York, 1966. \$17.50.

The Convergent Century: The Unification of Science in the Nineteenth Century. By H. I. Sharlin. 229 pp. Abelard-Schuman, New York, 1966. \$6.50.

CHEMISTRY & CHEMICAL PHYSICS

Dielectric Behavior of Physically Adsorbed Gases. By R. L. McIntosh. 160 pp. Marcel Dekker, New York, 1966. \$9.75.

TEXTBOOKS & EDUCATION

Scattering Theory of Waves and Particles. By R. G. Newton. 681 pp. McGraw-Hill, New York, 1966. \$19.50.

Elementary Particles. By W. R. Frazer. 190 pp. Prentice-Hall, Englewood Cliffs, New Jersey, 1966. \$6.95.

Elementary Particle Physics. By B. S. Gasiorowicz. 613 pp. Wiley, New York, 1966. \$14.95.

The Magnetic Properties of Matter. By D. E. G. Williams. 232 pp. American Elsevier, New York, 1966. \$11.75.

Introduction to Solid State Physics. (Third ed.) By C. Kittel. 648 pp. Wiley, New York, 1966. \$12.50.

Noise and Its Effect on Communication. By N. M. Blachman. 205 pp. McGraw-Hill, New York, 1966. \$13.50.

Mathematical Methods in the Physical Sciences. By M. L. Boas. 778 pp. Wiley, New York, 1966. \$11.95.

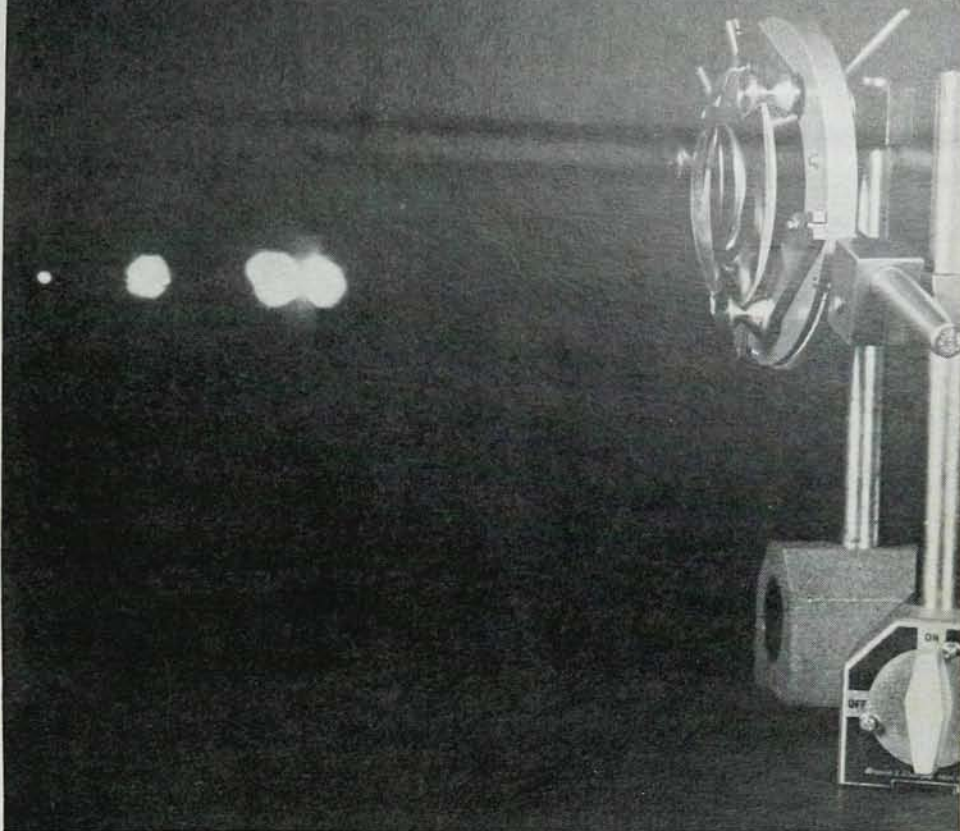
The Analysis of Physical Measurements. By M. Pugh, G. H. Winslow. 246 pp. Addison-Wesley, Reading, Mass., 1966. Paper \$4.75.

Analysis of Numerical Methods. By E. Isaacson, H. B. Keller. 541 pp. Wiley, New York, 1966. \$11.95.

Gas Phase Reaction Rate Theory. By H. S. Johnston. 362 pp. Ronald Press, New York, 1966. \$10.00.

Direct Energy Conversion. G. W. Sutton, ed. 342 pp. McGraw-Hill, New York, 1966. \$14.50. □

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