

experimentalist and the theorist, the beginner and the initiated alike. Daniel Bes and Raymond Sorenson's review of the pairing-plus-quadrupole model of medium and heavy nuclei comes very appropriately after the first volume's articles on nuclear SU(3) model and Hartree-Fock theory of light nuclei. The review is successful in illustrating the usefulness of phenomenological models and in focusing the salient aspects of the nuclear interaction that often get obscured in the so-called "exact" calculations (some of which are becoming possible now).

Charles Glasshauser and Jacques Thirion review polarization phenomena in nuclear reactions, a subject that has perhaps not yet reached the same level of maturity as the other topics. Peter Signell has reviewed nucleon-nucleon potentials. Instead of going into painful details of data fitting procedures, he addresses himself to a comparative discussion of many phenomenological potentials that have been used to fit the nucleon-nucleon scattering data as well as the proton-proton bremsstrahlung results that have recently become available.

The authors have very judiciously avoided details that can only detract from the readability of the reviews, such as elaborate proofs of theoretical results. The result is a volume that one can read without headaches. The reviews are, however, exhaustively referenced, so that one can find all the additional details.

KAMAL K. SETH
Associate Professor of Physics
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Physics of Semiconductor Devices

By S. M. Sze
812 pp. Interscience
New York, 1969. \$19.95

This book on electronic devices should prove very appealing to solid-state physicists. In every case the theory that underlies the mechanism under discussion is elaborated with sufficient detail and references so that an interested reader may work out the complete picture for himself.

In addition, there are many features that one does not usually find in a physics book, making this book a joy to read. First there are untold numbers of diagrams illustrating problems; ample tabular data is available, and

technical glossaries. These become particularly necessary in view of an avalanche of new devices having exotic names (IMPATT, FET, MIS, IGFET, TFT,) as well as performing exotic functions.

The book appears particularly strong in silicon technology, the area of greatest technical involvement at the present day. This is not surprising as the author, S. M. Sze, is at Bell Telephone Laboratories, a world center for this research. It would appear that he has written a "classic," that is, a book that is destined to be outstanding in its field for the next two or three years, at which time technology might take another zig-zag and render it obsolete.

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NEW BOOKS

CONFERENCE PROCEEDINGS

Proceedings: 4th International Symposium on Electron and Photon Interactions at High Energies. (Liverpool, 14-20 Sept. 1969). D. W. Braben, ed. 328 pp. Daresbury Nuclear Physics Laboratory, England, 1969. £6

Organisation Européenne pour la Recherche Nucléaire. (Conf. proc., Neutrino Meeting, CERN, Geneva, 13-14 Jan. 1969). J. B. M. Pattison, C. A. Ramm, W. A. Venus, eds. 170 pp. CERN, Scientific Information Service, Geneva, Switzerland, 1969.

Theory and Observation of Normal Stellar Atmospheres. (Conf. proc., Third Harvard-Smithsonian Conference on Stellar Atmospheres, Cambridge, Mass., 8-11 April 1968). Owen Gingerich, ed. 472 pp. MIT Press, Cambridge, Mass., 1970. \$12.50

Quantum Chemistry: Part 1. (Conf. proc., International Symposium on Atomic, Molecular and Solid-State Theory and Quantum Biology, Sanibel Island, Florida, 13-18, Jan. 1969). Per-Olov Löwdin, ed. 348 pp. Interscience, New York, 1969. \$17.50

Proceedings of 27th Annual Meeting of the Electron Microscopy Society of America. (Conf. proc., 27th Annual Meeting of EMSA, St. Paul, Minn., 26-29 Aug. 1969). Claude J. Arceneaux, ed. 430 pp. Claitor's, Baton Rouge, La., 1969.

Advances in Chemistry Series, 93: Radionuclides in the Environment. (Conf. proc., Division of Nuclear Chemistry and Technology, 155th Meeting of American Chemical Society, San Francisco, 1-3 April 1968). 529 pp. American Chemical Society, Washington, D.C., 1970. \$15.00
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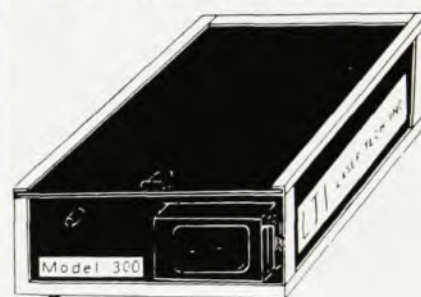
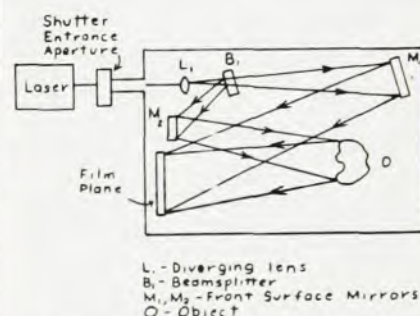


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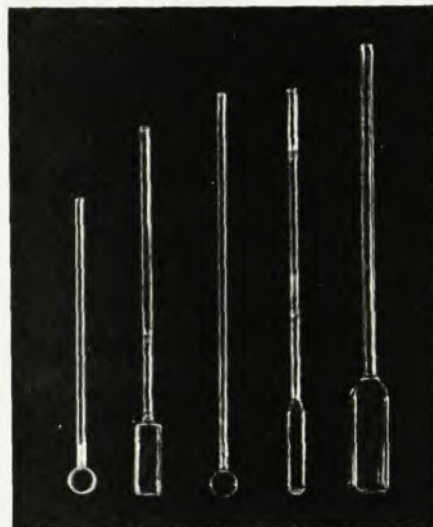
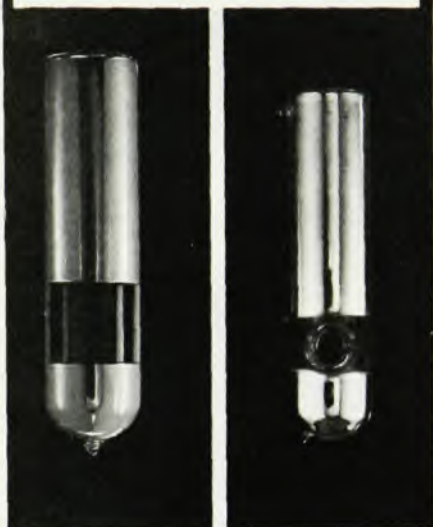
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cal Quantum Theory. (Conf. proc., International School of Physics, Enrico Fermi, Varenna, Italy, 12-24 Aug. 1968). R. Jost, ed. 263 pp. Academic, New York, 1970. \$14.50

Optical Pumping and Atomic Line Shape. (Conf. Proc. of International Conference on Optical Pumping and Atomic Line Shape, Warsaw, Poland, 25-28 June, 1968). T. Skalinski, ed. 560 pp. Państwowe Wydawnictwo Naukowe, Warsaw, Poland, 1969.

Hyperbolic Equations and Waves. (Conf. Proc. Battelle Recontres, Seattle, 1968). M. Froissart, ed. 393 pp. Springer-Verlag, New York, 1970. \$13.20

NUCLEI

Nuclear Reactions. By I. E. McCarthy. 327 pp. Pergamon, New York, 1970. Cloth \$7.00, paper \$5.50

Isospin in Nuclear Physics. D. H. Wilkinson, ed. 751 pp. Interscience, New York, 1970. \$43.50

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Phenomenological Theories of High Energy Scattering: An Experimental Evaluation. By Vernon D. Barger, David B. Cline. 201 pp. Benjamin, New York, 1969. Cloth \$15.00, paper \$6.95

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Covalent Bonding in Crystals, Molecules, and Polymers. By James C. Phillips. 267 pp. Chicago U. P., Chicago, 1970. \$2.50

Elementary Molecular Bonding Theory. By Peter G. Perkins. 183 pp. Barnes & Noble, New York, 1970. \$5.00

X-Ray Diffraction Methods in Polymer Science. By L. E. Alexander. 557 pp. Wiley, New York, 1969. \$27.95

Progress in Nuclear Magnetic Resonance Spectroscopy, Vol. 5. J. W. Emsley, J. Feeney, L. H. Sutcliffe, eds. 406 pp. Pergamon, New York, 1970. \$18.50

The Chemical Physics of Ice. By N. H. Fletcher. 271 pp. Cambridge U. P., Cambridge, England, 1970. \$13.50

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An Introduction to Hamiltonian Optics. By H. A. Buchdahl. 360 pp. Cambridge U. P., New York, 1970. \$18.50

Principles of Optics: Electromagnetic Theory of Propagation Interference and Diffraction of Light. (4th edition) By Max Born, Emil Wolf. 808 pp. Pergamon, New York, 1970. \$18.00

ELECTRICITY AND MAGNETISM

The Theory of Diffraction and the Factorization Method. By Lev A. Weinstein. 411 pp. Golem Press, Boulder, Colo., 1969. \$15.00

Radiation from Apertures in Convex Bodies (Flush-Mounted Antennas). By L. N. Zakharyev, A. A. Lemanski, K. S. Shcheglov. 224 pp. Golem Press, Boulder, Colo., 1970. \$12.00

Principles of Electricity and Magnetism (2nd edition). By Emerson M. Pugh, Emerson W. Pugh. 498 pp. Addison-Wesley, Reading, Mass., 1970. \$11.95

The Velocity of Light and Radio Waves. By K. D. Froome, L. Essen. 157 pp. Academic, New York, 1969. \$5.00

Progress in Quantum Electronics, Vol. 1: Part 2: Light Propagation and Light Shifts in Optical Pumping Experiments. By W. Happer. 103 pp. Pergamon, New York, 1970. \$3.25

Electronic Principles: Physics, Models, and Circuits. By Paul E. Gray, Campbell L. Searle. 1016 pp. Wiley, New York, 1969. \$15.95

SOLIDS

An Introduction to X-ray Crystallography. By M. M. Woolfson. 380 pp. Cambridge U. P., New York, 1970. \$13.50

Introduction Aux Phénomènes de Transport Linéaires dans les Semiconducteurs. By J. Tavernier, D. Catecki. 237 pp. Masson, Paris, 1970. 80 F

Solid State Theory: Methods and Applications. P. T. Landsberg, ed. 529 pp. Wiley, New York, 1970. \$24.95

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Early Solar Physics. By A. J. Meadows. 312 pp. Pergamon, New York, 1970. Cloth \$7.00, paper \$4.75

Advances in Geophysics, Vol. 14: Precision Radiometry. A. J. Drummond, ed. 415 pp. Academic, New York, 1970. \$19.50

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The Ionosphere and its Interaction with Satellites. By M. A. Kasha. 156 pp. Gordon and Breach, New York, 1969. Reference \$12.00, professional \$7.50

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Introduction to Quantum Electronics. By H. G. Unger. 184 pp. Pergamon, New York, 1970. \$6.50

Modern Mathematical Methods in Technology, Vol. I. By S. Fenyö, T. Frey. 408 pp. Wiley, New York, 1970. \$21.50

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The Wykeham Science Series, Vol. 7: Relativity and High Energy Physics. By W. G. V. Rosser. 148 pp. Springer-Verlag, New York, 1969. \$2.80

Numbers and Units for Physics. By Robert A. Carman. 220 pp. Wiley, New York, 1969. \$6.95 cloth, \$4.95 paper

Quantum Mechanics. (2nd edition) By E. Merzbacher. 621 pp. Wiley, New York, 1970. \$13.95

HISTORY AND PHILOSOPHY

Einstein. By B. Kuznetsov. 378 pp. Phaedra, New York, 1970. \$3.95

Hilbert. By Constance Reid. 290 pp. Springer-Verlag, New York, 1970. \$8.80

The Conflict Between Atomism and Conservation Theory, 1644-1860. By Wilson L. Scott. 312 pp. American Elsevier, New York, 1970. \$16.00

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Atomic Order: An Introduction to the Philosophy of Microphysics. By Enrico Cantore. 334 pp. MIT Press, Cambridge, Mass., 1970. \$12.50

Men of Physics: Lord Rayleigh, the Man and His Work. By R. Bruce Lindsay. 251 pp. Pergamon, New York, 1970. Cloth \$7.00, paper \$4.75

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The Scientific Institution of Latin America. By Hiltonm. 804 pp. California Institute of International Studies, Stanford, Calif., 1970. \$12.00

The 1970 McGraw-Hill Yearbook of Science and Technology. 477 pp. McGraw-Hill, New York, 1970. \$24.00

International Compendium of Numerical Data Projects. Committee on Data for Science and Technology. 295 pp. Springer-Verlag, New York, 1969. \$13.20

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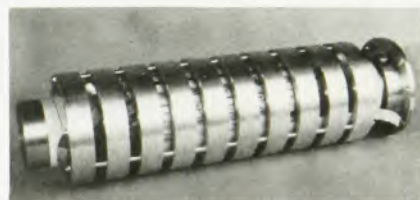
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