

The author, who is not only a brilliant acoustician but also a gifted musician, was one of the late Erwin Meyer's students at Göttingen University. In addition to providing a record of the accomplishments of that group, it presents a well organized and documented exposition of the theory of room acoustics. However, in the basic chapter 1 on the propagation of sound in a gaseous medium, one encounters the Fourier Transform on page 12 and later on such esoteric concepts as the Weiner and Khintchine theorems along with delta functions and correlation coefficients.

In summary, this book would serve as an excellent basic text for a graduate course strongly oriented to room acoustics. It is not for beginner, architects, or "handbook-oriented" consultants. Although there is a chapter titled "Design Considerations and Design Procedures," it does not serve as a "how to do it" guide to room acoustical design. On the other hand, the serious student and practitioner of room acoustical design will be rewarded by a better understanding of the many problems and compromises which must be addressed in the quest for "good acoustics" in a specific room design. Especially pertinent is the introduction wherein Kuttruff expresses his insights on the interplay of art, science, and human factors, all of which bear on the complexity of the problem of room acoustical design.

LUDWIG W. SEPMAYER
Los Angeles, Cal.

book notes

McGraw-Hill Encyclopedia of Ocean and Atmospheric Sciences (Fourth Edition) S. P. Parker, ed. 580 pp. McGraw-Hill, New York, 1979 (first ed., 1977). \$34.50

This interdisciplinary reference work combines the oceanic and atmospheric aspects of geology, geochemistry, geophysics, fluid mechanics, chemistry, biology and physics. Comprising 236 articles by over 200 contributors, the *McGraw-Hill Encyclopedia of Ocean and Atmospheric Sciences* treats most major theoretical and experimental concerns in meteorology and oceanography in an integrated fashion. Topics of current interest such as atmospheric pollution, weather modification, satellite programs, and hydrologic and energy cycles are highlighted. The book includes more than 500 illustrations, graphs, maps, photographs.

Wind Power and Other Energy Options. D. R. Inglis. 298 pp. U. Michigan, Ann Arbor, 1978. \$16.00 clothbound, \$8.50 paperbound

David Rittenhouse Inglis, professor

emeritus of physics at the University of Massachusetts, has written an overview of energy sources other than fossil fuels. *Wind Power and Other Energy Options* provides short explanations of the technologies involved, rates their promise, and describes the difficulties that must be overcome for their implementation.

Wind power is the topic of the opening chapters. Inglis reviews existing wind turbine designs, explains the mechanics of a number of new design concepts and examines various points that must be considered when erecting large and small wind power machines. Next, the author

details types of solar-related energy systems including direct solar heating and cooling, solar cells and solar steam-electric, wave energy and ocean-thermal generating plants. The book also focuses on nuclear fission. Following a description of reactor designs, Inglis lists many of its drawbacks—nuclear proliferation, radioactive leakage, power station accidents (pre-Three Mile Island), radioactive waste disposal and reactor decommissioning. He also summarizes current developments in nuclear fission and fusion and geothermal power. The book closes with comparative dollar and social

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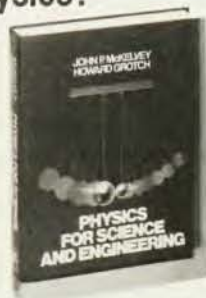


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cost analyses of wind and nuclear power and a discussion of our options for future power supplies.

Man-Made Radio Noise. E. N. Skomal. 342 pp. Van Nostrand Reinhold, New York, 1978. \$19.95

Radio interference is a wide-spread problem for many users of electrical equipment—from air-traffic controllers to heart-disease patients with pacemakers implanted in their chests. Edward N. Skomal has written a basic reference text that treats most sources of man-made radio noise. For each individual noise source, he develops a theoretical and empirical framework for understanding their effects. The author also considers how these individual sources combine to form the composite ambient interference found in most urban areas.

Skomal examines automotive igni-

tion—in general, the cause of the highest intensity noise emissions—and then considers radiated noise from electrical power transmission and generating plants. In both cases, the author attempts to supply enough empirical data for the reader to predict the characteristics of real-life radio interference from these types of sources.

The book then treats industrial causes of radio noise with a particular focus on some high-intensity sources such as industrial ovens, electric welders, mining equipment and even neon lighting. Similar treatment is given to consumer products that emit high-intensity discharges, for example, garage-door openers and gas-discharge lighting fixtures.

Near the end, Skomal analyzes incidental noise points above Earth's surface drawing on experimental data collected at heights up to 26 000 feet over major international cities.

—SCA

Books scheduled for 1980 publication

Listed below are authors and titles of physics and physics-related books planned for publication during the coming year.

ACADEMIC PRESS

Brekhovskikh, L. M. Waves in Layered Media (Second Edition)

Brewer, G. R. Electron Beam Technology in Microelectronic Fabrication

Butt, J. K., ed. Infrared and Millimeter Waves, Vol. 3: Submillimeter Techniques

Dennis, A. S. Weather Modification by Cloud Seeding

Fromhold, A. T., Jr. Quantum Mechanics for Applied Physics & Engineering

Herman, H., ed. Treatise on Materials Science & Technology, Vol. 18

Herman, H., ed. Treatise on Materials Science & Technology, Vol. 19: Experimental Methods

Kingslake, R./Thompson, B. J. Applied Optics and Optical Engineering, Vol. 4: A Comprehensive Treatise

Lin, S. H. Radiationless Transitions Marcuse, D. Principles of Quantum Electronics

Marton, C., ed. Advances in Electronics and Electron Physics, Vols. 50 and 51

Marton, C., ed. Advances in Electronics and Electron Physics, Suppl. 13A: Applied Charged Particle Optics

Marton, C., ed. Methods of Experimental Physics, Vol. 16, Part A: Polymers—Molecular Structure and Dynamics; Part B: Polymers—Crystal Structure & Morphology; Part C: Polymers—Physical Properties

Marton, C., ed. Methods of Experimental Physics, Vol. 17: Accelerators in Atomic Physics

Marton, C., ed. Methods of Experimental Physics, Vol. 18: Fluid Dynamics

Ross, M./Goodman, J. W., eds. Laser Applications, Vol. 4

Saltzman, B., ed. Advances in Geophysics, Vol. 22

Seitz, F./Ehrenreich, H./Turnbull, D., eds. Solid State Physics, Vol. 35

Shannon, R. R./Wyant, J. C., eds. Applied Optics and Optical Engineering, Vol. 8

Uhlmann, D. R./Kreidl, N., eds. Glass, Vol. 5

Van de Hulst, H. C. Multiple Light Scattering, Vols. 1 and 2

von Heimendahl, M. Introduction to Electron Microscopy of Materials

von Mises, R./von Karman, T., eds. Advances in Applied Mechanics, Vol. 20

Wunderlich, B. Macromolecular Physics, Vol. 3: Thermal Properties

Yih, C. S., ed. Stratified Flows

ADDISON-WESLEY PUBLISHING COMPANY

Biedenharn, L. C./Louck, J. D. Angular Momentum in Quantum Physics, Parts 1 and 2

Biedenharn, L. C./Louck, J. D. The Racah-Wigner Algebra in Quantum Theory, Part 1 and 2

Faddeev, L. D./Slavnov, A. A. Quantum Theory of Gauge Fields

Goldstein, H. Classical Mechanics (Second Edition)

Hecht, E. Physics in Perspective

Jacobs, S. F., ed. Free Electron Generators of Coherent Radiation

Lerner, R. G./Trigg, G. L., eds. Encyclopedia of Physics

Lovesey, S. Condensed Matter Physics: Dynamic Correlations

Miller, A. I. Albert Einstein's Special Theory of Relativity: Discovery (1905) and Early

continued

BOOKS FOR 1980 . . .

- Interpretation (1905-1911)
Ne'eman, Y., ed. Jerusalem Einstein Centennial Symposium Volume
Sears, F. W./Zemansky, M. W./Young, H. D. College Physics (Fifth Edition)
Slater, P. N. Remote Sensing: Optics and Optical Systems
Woolf, H., ed. Albert Einstein Centennial Celebration Volume

AMERICAN INSTITUTE OF PHYSICS

- Month, M., Herrera, J. C., eds.** Non-linear Dynamics and the Beam-Beam Interaction

ANN ARBOR SCIENCE PUBLISHERS

- Bailey, R. L.** Solar Electrics Research and Development
Stumpf, F. B. Introductory Analytical Acoustics

CAMBRIDGE UNIVERSITY PRESS

- Blythe, A. R.** Electrical Properties of Polymers (paperbound edition)
Chandrasekar, S. Liquid Crystals (paperbound edition)
Davidge, R. W. Mechanical Behaviour of Ceramics (paperbound edition)
Hudson, J. A. The Excitation and Propagation of Elastic Waves
Landshoff, P./Metherell, A. Simple Quantum Physics
Phillips, O. M. The Dynamics of the Upper Ocean (Second Edition)
Pedley, T. J. The Fluid Mechanics of Large Blood Vessels
Tabor, D. Gases, Liquids and Solids (Second Edition)
Townsend, A. A. The Structure of Turbulent Shear Flow
Turner, J. S. Buoyancy Effects in Fluids (paperbound edition)

- Ziman, J. M.** Principles of the Theory of Solids (Second Edition)

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Wilson, J. I. B. Solar Energy

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Lang, K./Gingerich, O. Source Book in Astronomy and Astrophysics, 1900-1975
Smith, A. K./Weiner, C., eds. J. Robert Oppenheimer, Letters and Recollections

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- Miyamoto, K.** Plasma Physics for Nuclear Fusion

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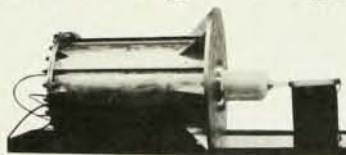
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Stanford University
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PRACTICAL PHYSICS: The Production and Conservation of Energy

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PHYSICS IN EVERYDAY LIFE

Richard Dittman and
Glenn Schmieg, both of the
University of Wisconsin—
Milwaukee
1979, 368 pages, \$14.95
Instructor's Manual

Written for students
whose background in math
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book offers a selected
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Whitrow, G. J. The Natural Philosophy of Time

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- Iribarne, J. V./Cho, H. R. Atmospheric Physics
Kapitza, P. L. Experiment, Theory, Practice
Shrader-Frechette, K. S. Nuclear Power and Public Policy: The Social and Ethical Problems of Fission Technology
Strub, A. S./Ehringer, H., eds. New Ways to Save Energy

PLENUM PUBLISHING CORPORATION

- Barry, J. D. Ball Lightning and Bead Lightning: Extreme Forms of Atmospheric Electricity
Barut, A. O., ed. Foundations of Radiation Theory and Quantum Electrodynamics
Basov, N. G., ed. Exciton and Domain Luminescence of Semiconductors
Basov, N. G., ed. Materials and Apparatus in Quantum Radiophysics
Basov, N. G., ed. Strong and Electromagnetic Interactions of Elementary Particles
Becker, P., ed. Electron and Magnetization Densities in Molecules and Crystals
Bockris, J. O'M./McGown, L. B. How to Obtain Abundant Clean Energy
Bratos, S./Pick, R. M., eds. Vibration Spectroscopy of Molecular Liquids and Solids
Crowe, K./Duclos, J./Fiorentini, G./Torelli, G., eds. Exotic Atoms '79: Fundamental Interactions and Structure of Matter
Dalven, R. Introduction to Applied Solid State Physics: Topics on the Applications of Semiconductors, Superconductors, and the Nonlinear Optical Properties of Solids
Davies, B. L./Cracknell, A. P. Kronecker Product Tables, Vol. 4: Symmetrized Powers of Irreducible Representations of Space Groups
Fridkin, V. M., ed. Ferroelectric Semiconductors
Held, A., ed. General Relativity and Gravitation One Hundred Years After the Birth of Albert Einstein, Vols. 1 and 2
Hooft, T./Itzykson, D./Jaffe, A./Lehmann, P. K./Einger, I. M./Stora, R., eds. Recent Developments in Gauge Theories
Kleinpopp, H./Williams, J. F., eds. Coherence and Correlation in Atomic Collisions
Leontovich, M. A., ed. Reviews of Plasma Physics, Vol. 8
Levy, M./Bastevante, J. L./Jacobs, M./Speiser, D./Meyers, J./Gastmans, R., eds. Quarks and Leptons (Cargèse 1979)
McDowell, M. R. C./Ferendeci, A. M., eds. Atomic and Molecular Processes in Controlled Thermonuclear Fusion
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- Preparata, G./Aubert, J. J., eds.** Probing Hadrons with Leptons
- Riste, T., ed.** Ordering in Strongly-Fluctuating Condensed-Matter Systems
- Ruhl, W., ed.** Field Theoretic Methods in Particle Physics
- Sacchi, C. A./Hillenkamp, F./Pratesi, P., eds.** Lasers in Biology and Medicine
- Sertorio, L./Cabibbo, N. eds.** Hadronic Matter at Extreme Energy Density
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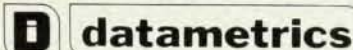
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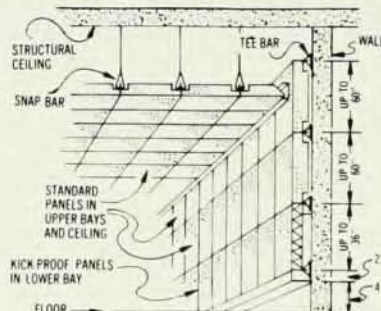
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Fundamentals of Quantum Mechanics. V. A. Fock. 367 pp. Mir, Moscow, 1978 (Imported Publications, Chicago, Ill.) (first Russian ed., 1932). \$7.50

Interacting Bosons in Nuclear Physics (Proc. of a seminar, Erice, Italy, June 1979). F. Iachello, ed. 201 pp. Plenum, New York, 1979. \$29.50

Pulsed Neutron Research (Proc. (Trudy) of the P. N. Lebedev Phys. Inst.) N. G. Basov, ed. 111 pp. Consultants Bureau (Plenum), New York, 1979. \$35.00

Neutron Capture Gamma-Ray Spectroscopy (Proc. of an int. symp., Stony Brook, N.Y., September 1978). R. E. Chrien, W. R. Kane, eds. 898 pp. Plenum, New York, 1979. \$69.50

Atomic, Molecular and Chemical Physics

The Electrochemistry of Lead (Papers presented at a symp., Salford, UK, 1974). A. T. Kuhn, ed. 484 pp. Academic, New York, 1979. \$59.00

Atomic and Molecular Collisions. Sir Harrie Massey. 327 pp. Halsted (Wiley), New York, 1979. \$34.95

Magnetic Resonance of Phase Transitions. F. J. Owens, C. P. Poole, Jr., H. A. Farach, eds. 399 pp. Academic, New York, 1979. \$44.00

X-Ray Analysis and the Structure of Organic Molecules. J. D. Dunitz. 514 pp. Cornell U., Ithaca, N.Y., 1979. \$55.00

Electron-Molecule and Photon-Molecule Collisions (Proc. of a conf., Pacific Grove, Cal., August 1978). T. Rescigno, V. McKoy, B. Schneider, eds. 365 pp. Plenum, New York, 1979. \$39.50

Scaling Concepts in Polymer Physics.