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by Wolfgang Palz,
Solar Energy Development Programme,
Commission of the European Communities,
Brussels.

Unesco 1978 92-3-101427-7 312 p. \$46
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payments, training and quality assurance, technical improvements and relations with local suppliers, patents and technology protection, and patents and the transfer of technology. In general, the overview discussions considered "landscape" factors that characterized the technology-transfer scene. Although they provided some useful background information for the reader they, too, added few detailed insights.

Overall, the absence of a hard-hitting analysis of real-world experience left much to be desired by a concerned reader. He could have gained a great deal by learning how donors try to anticipate problems, what they did right and what they did wrong, how they would have done things differently, which conditions did not enter into a particular transfer action at all, and in general, what do's and don't's they have discovered via their technology transfer experiences. These practical insights, especially those that are not widely publicized—if they are publicized at all—provide the real critical understanding not available from a recitation of the mechanistic guidelines.

HERBERT S. KLEIMAN
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Cleveland, Ohio

Concepts of Radiation Dosimetry

K. R. Kase, W. R. Nelson

219 pp. Pergamon, Elmsford, N.Y., 1978.
\$17.50 clothbound, \$9.50 paperbound

Today there is an ever-increasing concern over the effects of ionizing radiation, be it encountered in an ordinary chest x ray or in the possible emissions from a nuclear power plant. Health physicists and other professionals in the radiation field are being called upon both to estimate the absorbed dose from various radiation sources as well as to provide "safe" and effective shielding from these sources. In this context *Concepts of Radiation Dosimetry* provides a very valuable compendium of information. K. R. Kase and W. R. Nelson first define the concepts used in radiation dosimetry and discuss the manner in which charged particles and photons interact with matter; then they discuss in mathematical detail the concepts of energy deposition at a microscopic level as well as the expressions for energy loss. These concepts and expressions are then applied to dose calculations and measurements.

This book is an extremely good source of valuable information for anyone concerned with the design of shielding or with the calculation of absorbed dose from charged particles or photons. The authors provide an appendix in the form of a series of graphs using various calcula-

tions that can be performed with the mathematical expressions contained in the text.

This book, however, is not meant as a study guide for anyone wishing to learn radiation dosimetry. An extensive list of references is provided where a person unacquainted with the fundamentals of radiation dosimetry may read more extensively on each topic. The authors provide a comprehensive summary of this very important field and draw together all the definitions, mathematical formulas and functions necessary to carry out the extensive numerical calculations involved in evaluating absorbed doses from ionizing radiation and in protecting from it.

The authors have given a course, similar in title to the book, at Stanford University for a number of years. The course and the text are directed at the graduate level to scientists and engineers as well as to persons professionally involved in the measurement of, or the shielding from, photons and charged particles. A particularly attractive feature of this book is that the authors have covered the high as well as the lower energy range of ionizing radiations. Hence, health physicists and others in the medical field will find it a good source of information as will their colleagues at high-energy facilities and nuclear power plants.

At the same time the authors have included a very comprehensive discussion of charged-particle and photon interactions using illustrations from high-energy bubble-chamber pictures. This unique idea is very illustrative of the more subtle points of some rather ordinary concepts and is helpful. In addition, the authors treat the distribution of energy in matter very nicely, using the ideas of linear energy transfer, linear energy-transfer distributions, and energy density distributions.

In summary, this book is a valuable source of information for health physicists, engineers and other professionals involved in the design construction of radiation facilities.

MARILYN E. NOZ
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book notes

The Practicing Scientist's Handbook: A Guide for Physical and Terrestrial Scientists and Engineers. A. J. Moses. 1292 pp. Van Nostrand Reinhold, New York, 1978. \$52.50

The purpose of this book, Alfred J. Moses states in his preface, is "to provide a comprehensive source of materials property data to practicing physicists, chemists, engineers and designers." An introductory chapter (comprising nearly

half the book) provides tabular data on atomic and nuclear structure, electromagnetic radiation, classes of materials, materials-selection criteria, physical properties, electrical and electronic properties, nuclear radiation and radiation effects, and mechanical, chemical, thermal and thermodynamic, magnetic, acoustic and optical properties of materials. Other chapters present properties of the elements, organic and inorganic compounds, alloys, glasses and ceramics, composites, polymers and adhesives, semiconductors, superconductors, the environment and miscellaneous materials.

Craig B. Waff

Crystals for Magnetic Applications. C. J. M. Rooijmans, ed. 139 pp. Springer-Verlag, New York, 1978. \$29.00

This book is the first volume of a new series titled *Crystals: Growth, Properties, and Applications*. An international editorial board has determined that a substantial portion of the series will be devoted to the theory, mechanisms and techniques of crystal growth. In addition, the series will report on general methods of crystal characterization and new applications of crystals—in fields such as electronics, laser technology and nonlinear optics. It will also treat topics related to organic crystals and polymers.

The contributors to *Crystals for Magnetic Applications* are Wolfgang Tolksdorf, Fritz Welz, Frank J. Bruni and Mark H. Randles (magnetic garnets), Ludmila N. Demianets (magnetic oxides) and Mitsuo Sugimoto (magnetic spinel single crystals).

—SCA

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Recent Developments in Particle and Field Theory (Proc. of the Symp. on Particles and Fields, Tübingen, Fed. Rep. of Germany, 1977). W. Dittrich, ed. 427 pp. Vieweg, Braunschweig, Fed. Rep. of Germany, 1979. DM88

Few Body Systems and Nuclear Forces II. (Papers presented at the 8th Int. Conf. on Few Body Systems and Nuclear Forces, Graz, Austria, August, 1978). H. Zingl, M. Haftel, H. Zankel, eds. 545 pp. Springer-Verlag, New York, 1978. \$25.30

Hadron Structure and Lepton-Hadron Interactions, Cargèse 1977 (Proc. of the NATO Advanced Study Institute, Paris, July, 1977). M. Levy, J. L. Basdevant, D. Speiser,

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Luminescence Spectroscopy. M. D. Lumb, ed. 375 pp. Academic, London, 1978. \$49.75

Electron Spectroscopy: Theory, Techniques and Applications, Vol. 2. C. R. Brundle and A. D. Baker. 287 pp. Academic, New York, 1978. \$36.25

Photoelectron Spectroscopy and Molecular Orbital Theory. R. E. Ballard. 192 pp. Halsted (Wiley), New York, 1978. \$49.95

Handbook on the Physics and Chemistry of Rare Earths, Vol. 1: Metals. K. A. Gschneidner Jr., L. Eyring, eds. 894 pp. North-Holland, New York, 1978. \$133.25

Molecular Symmetry and Spectroscopy. R. Bunker. 424 pp. Academic, New York, 1979. \$33.00

Constants of Diatomic Molecules (Molecular Spectra and Molecular Structure, Vol. 4). K. P. Huber and G. Herzberg. 716 pp. Van Nostrand Reinhold, New York, 1979. \$27.50

Physical Chemistry (Fifth Edition). R. A. Alberty, F. Daniels. 682 pp. Wiley, New York, 1979. \$19.95

Physical Chemistry (Fourth Edition). G. M. Barrow. 832 pp. McGraw-Hill, New York, 1979 (first ed., 1961). \$23.00

Advances in Atomic and Molecular Physics, Vol. 14. D. R. Bates, B. Bederson, eds. 464 pp. Academic, New York, 1979. \$39.50

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Chemical and Biochemical Applications of Lasers, Vol. 4. C. B. Moore, ed. 414 pp. Academic, New York, 1979. \$25.00

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Reviews of Plasma Physics, Vol. 7. M. A. Leontovich, ed. 379 pp. Consultants Bureau (Plenum), New York, 1979. \$32.50

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Thermal Conductivity 15 (Proc. of the 15th Int. Conf., Ottawa, Ontario, August 1977). V.