

that this report is already out of date, and the authors have attempted to compensate for this by reprinting at the end of the book a number of recent original papers. However, the most recent of these are dated 1972. I would not quarrel with this if the book were intended as an elementary introduction to its subject; it is, however, subtitled "An introduction to current research." This is rather misleading, because the uninitiated reader would not gain from this book much idea of the current research that is being conducted on black holes.

The same criticism cannot be levelled at the section on cosmology. Here too there are hardly any references to work published after 1971, but the pace of discovery, both observational and theoretical, has slackened considerably in the last few years. Perhaps the most important topics that have been omitted are the discovery by the UHURU satellite of x rays emitted by rich clusters of galaxies and the detection of deuterium outside the solar system with its possible implications for "big-bang" nucleosynthesis. Aside from these omissions, the cosmology chapters, which are written from an astrophysical point of view, are outstanding, and I strongly recommend them to anyone who wants to get the "feel" of modern astrophysical cosmology.

D. W. SCIAMMA
University of Oxford
UK

new books

Elementary Particles and Fields

Introduction to Elementary Particle Theory. Yu. V. Novozhilov. 386 pp. Pergamon, New York, 1975. \$35.00

Nuclei, Nuclear Physics

Problems of Vibrational Nuclei. (Conf. Proc. of the Topical Conf. on Problems of Vibrational Nuclei, Zagreb, Croatia, Yugoslavia, September 1974). G. Alaga, V. Paar, L. Sips, eds. 458 pp. North-Holland, Amsterdam, The Netherlands, 1975. \$41.75

Neutron Standard Reference Data. (Proc. of a Panel organized by IAEA, Vienna, November 1972). 369 pp. UNIPUB, New York, 1975. \$20.00

Atoms and Molecules

Interactions Between Ions and Molecules. P. Ausloos, ed. 690 pp. Plenum, New York, 1975. \$54.00

Atoms, Molecules and Lasers. (Lectures presented at the International Winter College, Trieste, January-April 1973). 710 pp. UNIPUB, New York, 1975. \$38.00

Chemical Physics

Electron Densities in Molecules and Mo-

lecular Orbitals. J. R. Van Wazer, I. Absar. 101 pp. Academic, New York, 1975.

The Exciplex. (Proc. meeting at University of Western Ontario, May 1974). M. Gordon, W. R. Ware, eds. 372 pp. Academic, New York, 1975. \$17.50

Advances in Chemical Physics, Vol. 32 (Proc. of the Conf. on Instability and Dissipative Structures in Hydrodynamics). I. Prigogine, S. A. Rice, eds. 333 pp. Wiley, New York, 1975. \$27.50

Scandium: Its Occurrence, Physics, Chemistry, Metallurgy, Biology & Technology. C. T. Horowitz, ed. 598 pp. Academic, New York, 1975. \$42.25

Films on Solid Surfaces. J. G. Dash. 273 pp. Academic, New York, 1975. \$26.00

Topics in Applied Physics, Vol. 4: Interaction on Metal Surfaces. R. Gomer, ed. 310 pp. Springer-Verlag, New York, 1975. \$33.60

Biochemical Fluorescence: Concepts, Vol. 1. R. F. Chen, H. Edelhoch, eds. 408 pp. Marcel Dekker, New York, 1975. \$29.50.

Acoustics

Physical Acoustics: Principles and Methods, Vol. 11. W. P. Mason, R. N. Thurston, eds. 364 pp. Academic, New York, 1975. \$41.00

Optics

Progress in Electro-Optics: Reviews of Recent Developments. E. Camatini, ed. 213 pp. Plenum, New York, 1975. \$17.50

Atlas of Optical Transforms. G. Harburn, C. A. Taylor, T. R. Welberry. 33 pp. Cornell U. P., New York, 1975. \$15.00

Polarized Light (Vol. 1 of Benchmark Papers in Optics). W. Swindell, ed. 418 pp. Halsted, New York, 1975. \$28.00

Statistical Properties of Scattered Light. B. Crosignani, P. Di Porto, M. Bertolotti. 226 pp. Academic, New York, 1975. \$19.50

Principles of Holography, 2nd edition. H. M. Smith. 279 pp. Wiley, New York, 1975. \$16.50

Quantum Electronics and Lasers

Quantum Electrodynamics. I. Bialynicki-Birula, Z. Bialynicka-Birula. 550 pp. Pergamon, New York, 1975. \$20.00

Progress in Lasers and Laser Fusion (Studies in the Natural Sciences, Vol. 8). A. Perlmutter, S. M. Widmayer, eds. 416 pp. Plenum, New York, 1975. \$35.00

Fluids and Plasmas

Plasma-Experimente im Weltraum. R. Lüst. 39 pp. Westdeutscher Verlag, Germany, 1974.

Thermodynamics of Fluids: An Introduction to Equilibrium Theory. K. C. Chao, R. A. Greenkorn. 568 pp. Marcel Dekker, New York, 1975. \$29.75

Mecanique des Fluides Appliquée aux Problèmes d'Aménagement et d'Energétique. M. Hug, ed. 1184 pp. Eyrolles, France, 1975. 390 F.

Plasma Electrodynamics, Vol. 1: Linear Theory. A. I. Akhiezer, I. A. Akhiezer, R. V.

Polovin, A. G. Sitenko, K. N. Stepanov. 414 pp. Pergamon, New York, 1975. \$25.00

Elementary Fluid Mechanics, 5th edition. J. K. Vennard, R. L. Street. 740 pp. Wiley, New York, 1975. \$16.95

Perturbation Methods in Fluid Mechanics. (Annotated version of 1964 edition). M. Van Dyke. 271 pp. Parabolic, Stanford, California, 1975. \$7.00

Electricity and Magnetism

Proc. of the 1974 Arbeitsgemeinschaft Magnetismus Conf. (Braunschweig, March 1974). A. J. Freeman, ed. 503 pp. North-Holland, Amsterdam, The Netherlands, 1975. \$58.50.

Classical Electrodynamics, 2nd edition. J. D. Jackson. 848 pp. Wiley, New York, 1975. \$20.95

Electromagnetic Interactions and Field Theory (Proc. of the 14th Int. Universitätswochen für Kernphysik, Steiermark, Austria, 1975). P. Urban, ed. 681 pp. Springer-Verlag, New York, 1975. \$63.70

Comprendre et appliquer l'électromagnétisme: La magnéto-statique. J. P. Lonchamp. 59 pp. Masson, Paris, 1975.

Materials and Solid State

Point Defects in Solids, Vol. 2: Semiconductors and Molecular Crystals. J. H. Crawford, Jr., L. M. Slifkin, eds. 480 pp. Plenum, New York, 1975. \$37.50

Surface Physics. M. Prutton. 117 pp. Oxford U.P., New York, 1975. \$7.75

Electronic States and Optical Transitions in Solids. F. Bassani, G. P. Parravicini (R. A. Ballinger, ed.). 300 pp. Pergamon, New York, 1975. \$23.50

Electronic Structure of Polymers and Molecular Crystals. J.-M. André, J. Ladik, eds. 704 pp. Plenum, New York, 1975. \$56.00

Optical Properties of Ions in Solids. B. Di Bartolo, ed. 493 pp. Plenum, New York, 1975. \$39.00

Interfacial Phenomena in Metals and Alloys. L. E. Murr. 376 pp. Addison-Wesley, Reading, Mass., 1975. \$24.50 hardcover, \$14.50 paperback

Treatise on Materials Science and Technology, Vol. 8. H. Herman, ed. 253 pp. Academic, New York, 1975. \$24.50

Handbook of Plastics and Elastomers. C. A. Harper, ed. 1024 pp. McGraw-Hill, New York, 1975. \$39.50

Advances in Liquid Crystals, Vol. 1. G. H. Brown, ed. 320 pp. Academic, New York, 1975. \$31.50

Mechanical Properties, Vol. 1. F. H. Wohlbiel, ed. 350 pp. Trans Tech Publications, Bay Village, Ohio, 1975. \$56.00

Solid State Physics, Vol. 30. H. Ehrenreich, F. Seitz, D. Turnbull, eds. 338 pp. Academic, New York, 1975. \$29.50

Thorium: Physico-chemical Properties of its Compounds and Alloys. A. L. Dragoo, R. Ferro, K. Girgis, O. von Goldbeck, M. H. Rand. 241 pp. International Atomic Energy Agency, Vienna, 1975. \$15.00

Ternary Chalcopyrite Semiconductors: Growth, Electronic Properties, and Ap-

plications. J. L. Shay, J. H. Wernick. 244 pp. Pergamon, New York, 1975. \$25.00

Low Temperature

Liquid and Solid Helium (Proc. of the European Physical Society Topical Conf., Haifa, July 1974). C. G. Kuper, S. G. Lipson, M. Revzen, eds. 410 pp. Halsted, New York, 1975. \$32.00

The Superconducting State. A. D. C. Grassie. 135 pp. Crane, Russak, New York, 1975. \$24.50

Geophysics

The Earth's Density. K. E. Bullen. 420 pp. Wiley, New York, 1975. \$37.50

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Quantum Mechanics: A Physical World Picture. A. Muller. 119 pp. Pergamon, New York, 1974. \$15.00

Quantum Gravity (Oxford Symp. 1974.) C. J. Ishram, R. Penrose, D. W. Sciama, eds. 605 pp. Oxford Univ. Press, New York, 1975. \$29.50

Symmetry Discovered. J. Rosen. 138 pp. Cambridge U. P., Cambridge, Mass., 1975. \$11.95

Special Relativity. J. G. Taylor. 106 pp. Oxford U. P., New York, 1975. \$10.75

Instrumentation and Techniques

Pulsed Fusion Reactors (Erice-Trapani Summer School, Sicily, September 1974). 758 pp. Pergamon, Oxford, 1975. \$40.00

A Modern Nuclear Laboratory Course. F. T. Avignone III. 167 pp. S. Carolina U. P., Columbia, 1975. \$7.95

Radar Reflectivity of Land and Sea. M. W. Long. 366 pp. D. C. Heath, Lexington, Mass., 1975. \$22.95

Fusion Reactor Design Problems. (Proc. of an IAEA Workshop, Culham, UK, 1974). 540 pp. International Atomic Energy Agency, Vienna, 1974. \$25.00

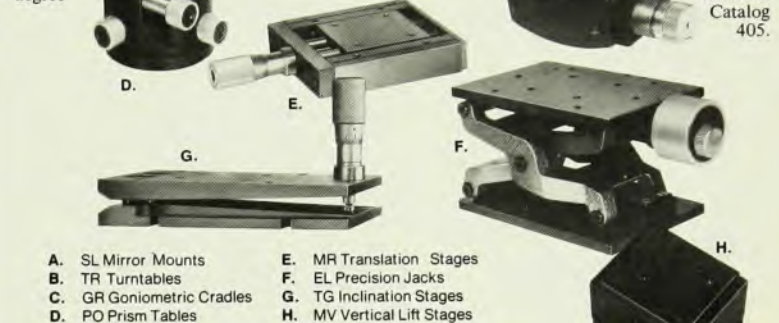
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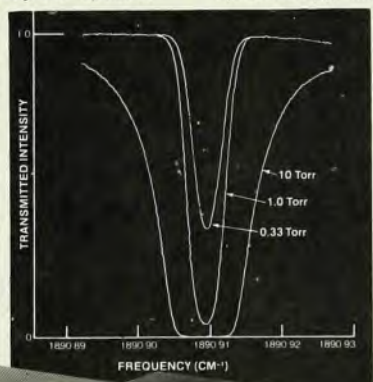
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