

years to come, as the rate of cosmological discovery accelerates at least as fast as the universe itself appears to be doing.

PAUL R. SHAPIRO
University of Texas at Austin

NEW BOOKS

Acoustics

Acoustics: Basic Physics, Theory and Methods. P. Filippi, D. Habault, J.-P. Lefebvre, A. Bergassoli. Academic Press, San Diego, Calif., 1999. 317 pp. \$69.99 hc ISBN 0-12-256190-2

Astronomy and Astrophysics

Galaxy Formation. *Astronomy and Astrophysics Library.* M. S. Longair. Springer-Verlag, New York, 1998. 536 pp. \$64.95 hc ISBN 3-540-63785-0

The Hubble Deep Field. *Space Telescope Science Institute Symposium Series 11.* Proc. Symp., Baltimore, Md., May 1997. M. Livio, S. M. Fall, P. Madau, eds. Cambridge U. P., New York, 1998. 303 pp. \$69.95 hc ISBN 0-521-63097-5

Massive Neutrinos in Physics and Astrophysics. *World Scientific Lecture Notes in Physics 60.* 2nd edition. R. N. Mohapatra, P. B. Pal. World Scientific, River Edge, N.J., 1998 [1990]. 397 pp. \$48.00 hc ISBN 981-02-3373-6

Observational Astrophysics. *Astronomy and Astrophysics Library.* 2nd edition. P. Léna, F. Lebrun, F. Mignard (translated from the French by S. Lyle). Springer-Verlag, New York, 1998 [1988]. 512 pp. \$62.00 hc ISBN 3-540-63482-7

Stellar Evolution, Stellar Explosions and Galactic Chemical Evolution. Proc. Symp., Oak Ridge, Tenn., Dec. 1997. A. Mez-zacappa, ed. IOP, Philadelphia, 1998. 737 pp. \$310.00 hc ISBN 0-7503-0555-X

Atomic and Molecular Physics

Atomic Multielectron Processes. *Springer Series on Atoms and Plasmas 23.* V. Shevelko, H. Tawara. Springer-Verlag, New York, 1998. 174 pp. \$99.00 hc ISBN 3-540-64235-8

Physics of Highly Excited Atoms and Ions. *Springer Series on Atoms and Plasmas 22.* V. S. Lebedev, I. L. Beigman. Springer-Verlag, New York, 1998. 298 pp. \$99.00 hc ISBN 3-540-64234-X

Ultrafast Dynamics of Quantum Systems: Physical Processes and Spectroscopic Techniques. *NATO ASI Series B: Physics 372.* B. Di Bartolo, ed. Plenum, New York, 1998. 725 pp. \$140.00 hc ISBN 0-306-45929-9

Biophysics and Medical Physics

Brain Function and Oscillations, Vol. 2: Integrative Brain Function. Neurophysiology and Cognitive Processes. *Springer Series in Synergetics.* E. Basar. Springer-Verlag, New York, 1999. 476 pp. \$89.95 hc ISBN 3-540-64345-1

Chemical Physics

Annual Review of Physical Chemistry, Vol. 49. H. L. Strauss, G. T. Babcock, S. R. Leone, eds. Annual Reviews, Palo Alto, Calif., 1998. 678 pp. \$64.00 hc ISBN 0-8243-1049-7

How Chemical Bonds Form and Chemical Reactions Proceed. V. Y. Gankin, Y. V. Gankin. Institute of Theoretical Chemistry, Shrewsbury, Mass., 1998. 451 pp. \$49.90 hc ISBN 0-9664143-0-6, www.itchem.com

Monte Carlo Methods in Chemical

Physics. *Advances in Chemical Physics 105.* D. M. Ferguson, J. I. Siepmann, D. G. Truhlar, eds. Wiley, New York, 1999. 555 pp. \$195.00 hc ISBN 0-471-19630-4

Structure of Free Polyatomic Molecules—Basic Data. K. Kuchitsu, ed. Springer-Verlag, New York, 1998. 214 pp. \$59.95 hc ISBN 3-540-60766-8

Computers and Computational Physics

Feynmann and Computation: Explor-

CVI Laser Corporation
CVI Laser Corporation
CVI Laser Corporation
CVI Laser Corporation
light@work
light@work
light@work
light@work
cvilaser.com
cvilaser.com
cvilaser.com
cvilaser.com

Need high damage threshold, low scatter laser optics for semiconductor, medical, or scientific applications? Now you can build your own excimer, Nd:YAG, and other solid state laser optics at CVI's interactive web site www.cvilaser.com

CVI
Laser Optics



ing the Limits of Computers. A. J. G. Hey, ed. Perseus Books, Reading, Mass., 1999. 438 pp. \$50.00 *hc* ISBN 0-7382-0057-3

Introduction to Quantum Computers. G. P. Berman, G. D. Doolen, R. Mainieri, V. I. Tsifrinovich. World Scientific, River Edge, N.J., 1998. 187 pp. \$32.00 *hc* ISBN 981-02-3490-2

Condensed Matter Physics

The Gap Symmetry and Fluctuations in High-T_c Superconductors. *NATO ASI Series B: Physics 371.* J. Bok, G. Deutscher, D. Pavuna, S. A. Wolf, eds. Plenum, New York, 1998. 560 pp. \$165.00 *hc* ISBN 0-306-45934-5

Optical Properties of Semiconductor Nanocrystals. *Cambridge Studies in Modern Optics.* S. V. Gaponenko. Cambridge U. P., New York, 1998. 245 pp. \$64.95 *hc* ISBN 0-521-58241-5

Organic Superconductors. *Springer Series in Solid-State Sciences 88.* 2nd edition. T. Ishiguro, K. Yamaji, G. Saito. Springer-Verlag, New York, 1998 [1990]. 522 pp. \$89.95 *pb* ISBN 3-540-63025-2

Simple Views on Condensed Matter. *Series in Modern Condensed Matter Physics 8.* Expanded edition. P.-G. de Gennes. World Scientific, River Edge, N.J., 1998 [1992]. 489 pp. \$58.00 *hc* ISBN 981-02-3270-5

The Superconducting State in Magnetic Fields: Special Topics and New Trends. *Series on Directions in Condensed Matter Physics 13.* C. A. R. Sá de Melo, ed. World Scientific, River Edge, N.J., 1998. 324 pp. \$78.00 *hc* ISBN 981-02-3374-4

Thermodynamics of Crystals. D. C. Wallace. Dover Publications, Mineola, N.Y., 1998 [1972, reissued]. 484 pp. \$16.95 *pb* ISBN 0-486-40212-6

Cosmology and Relativity

Some Comments on the Foundations of Physics. P.-O. Löwdin. World Scientific, River Edge, N.J., 1998. 121 pp. \$18.00 *hc* ISBN 981-02-2913-5

Energy and Environment

Annual Review of Energy and the Environment, Vol. 23. R. H. Socolow, D. Anderson, J. Harte, eds. Annual Reviews, Palo Alto, Calif., 1998. 578 pp. \$76.00 *hc* ISBN 0-8243-2323-8

Energies: An Illustrated Guide to the Biosphere and Civilization. V. Smil. MIT Press, Cambridge, Mass., 1999. 210 pp. \$25.00 *hc* ISBN 0-262-19410-4

Reactive Hydrocarbons in the Atmosphere. C. N. Hewitt, ed. Academic Press, San Diego, Calif., 1999. 322 pp. \$75.00 *hc* ISBN 0-12-346240-1

Fluids

Acoustics of Fluid-Structure Interactions. *Cambridge Monographs on Mechanics.* M. S. Howe. Cambridge U. P., New York, 1998. 560 pp. \$85.00 *hc* ISBN 0-521-63320-6

Asymptotic Theory of Separated Flows.

V. V. Sychev, A. I. Ruban, G. L. Korolov (translated from the Russian by E. V. Maroko). Cambridge U. P., New York, 1998. 334 pp. \$49.95 *hc* ISBN 0-521-45530-8

Flow at Ultra-High Reynolds and Rayleigh Numbers: A Status Report. R. J. Donnelly, K. R. Sreenivasan, eds. Springer-Verlag, New York, 1998. 466 pp. \$59.00 *hc* ISBN 0-387-98544-1

Theory of Multicomponent Fluids. *Applied Mathematical Sciences 135.* D. A. Drew, S. L. Passman. Springer-Verlag, New York, 1999. 308 pp. \$59.95 *hc* ISBN 0-387-98380-5

Geophysics

The Deep Hot Biosphere. T. Gold. Copernicus (Springer-Verlag), New York, 1999. 235 pp. \$27.00 *hc* ISBN 0-387-98546-8

History and Philosophy

The Advancement of Science, and Its Burdens: With a New Introduction. Revised edition. G. Holton. Harvard U. P., Cambridge, Mass., 1998 [1986]. 352 pp. \$18.95 *pb* ISBN 0-674-00530-9

Doubt and Certainty: The Celebrated Academy. T. Rothman, G. Sudarshan. Perseus Books, Reading, Mass., 1998. 320 pp. \$25.00 *hc* ISBN 0-7382-0006-9

Fashionable Nonsense: Postmodern Intellectuals' Abuse of Science. A. Sokal, J. Bricmont. Picador USA (St. Martin's Press), New York, 1998. 300 pp. \$23.00 *hc* ISBN 0-312-19545-1

From the Big Bang to the Human Predicament: Outline of an Ultimate Evolutionary Synthesis. N. Eberhardt. Pentland Press, Raleigh, N.C., 1998. 303 pp. \$31.95 *hc* ISBN 1-57197-101-7

Idealization IX: Idealization in Contemporary Physics. *Poznan Studies in the Philosophy of the Sciences and the Humanities 63.* N. Shanks, ed. Editions Rodopi B. V., Atlanta, Ga., 1998. 238 pp. \$69.00 *hc* ISBN 90-420-0642-0

Innocents on the Ice: A Memoir of Antarctic Exploration, 1957. J. C. Behrendt. U. P. of Colorado, Niwot, Colo., 1998. 428 pp. \$29.95 *hc* ISBN 0-87081-493-1

The Man Who Loved Only Numbers: The Story of Paul Erdős and the Search for Mathematical Truth. P. Hoffman. Hyperion, New York, 1998. 302 pp. \$22.95 *hc* ISBN 0-7868-6362-5

The Particle Century. G. Fraser, ed. IOP, Philadelphia, 1998. 232 pp. \$59.50 *hc* ISBN 0-7503-0543-6

Philosophic Foundations of Quantum Mechanics. H. Reichenbach. Dover, Mineola, N.Y., 1999 [1975, reissued]. 182 pp. \$8.95 *pb* ISBN 0-486-40459-5

Ptolemy's Almagest. Translated and annotated by G. J. Toomer. Princeton U. P., Princeton, N.J., 1998. 693 pp. \$39.50 *pb* ISBN 0-691-00260-6

Science in the Making, Vol. 3: 1900-1950. E. A. Davis, ed. Taylor and Francis, Bristol, Pa., 1998. 423 pp. \$105.00 *hc* ISBN 0-7484-0766-9

Undergraduate Texts and Education

Analytical and Computational Methods of Advanced Engineering Mathematics. *Texts in Applied Mathematics 28.* G. B. Gustafson, C. H. Wilcox. Springer-Verlag, New York, 1998. 729 pp. \$59.95 *hc* ISBN 0-387-98265-5

Energy Studies. W. Shepherd, D. W. Shepherd. World Scientific, River Edge, N.J., 1998. 403 pp. \$48.00 *hc* ISBN 1-86094-042-0

Femtosecond Laser Pulses: Principles and Experiments. C. Rullière, ed. Springer-Verlag, New York, 1998. 309 pp. \$59.95 *hc* ISBN 3-540-63663-3

Groups, Representations and Physics. 2nd edition. H. F. Jones. IOP, Philadelphia, 1998 [1990]. 326 pp. \$130.00 *hc* (\$46.00 *pb*) ISBN 0-7503-0505-3 *hc* (0-7503-0504-5 *pb*)

How to Ace Calculus: The Streetwise Guide. C. Adams, J. Hass, A. Thompson. W. H. Freeman, New York, 1998. 230 pp. \$14.95 *pb* ISBN 0-7167-3160-6

How to Solve Problems: For Success in Freshman Physics, Engineering, and Beyond. 5th edition. D. Scarl. Dosoris Press, Glen Cove, N.Y., 1998. 118 pp. \$10.95 *pb* ISBN 0-9622008-5-9

Maths: A Student's Survival Guide. J. Olive. Cambridge U. P., New York, 1998. 564 pp. \$74.95 *hc* (\$29.95 *pb*) ISBN 0-521-57306-8 *hc* (0-521-57586-9 *pb*)

Physics: Concepts and Connections. 2nd edition. A. Hobson. Prentice Hall, Saddle River, N.J., 1999 [1995]. 536 pp. \$65.33 *pb* ISBN 0-13-095381-4

Relativity: An Introduction to Space-Time Physics. S. Adams. Taylor & Francis, Bristol, Pa., 1997. 273 pp. \$24.95 *pb* ISBN 0-7484-0621-2

Statistical Physics: An Advanced Approach with Applications. J. Honerkamp. Springer-Verlag, New York, 1998. 410 pp. \$59.95 *hc* ISBN 3-540-63978-0

Miscellaneous

America's Scientific Treasures: A Travel Companion. P. S. Cohen, B. H. Cohen. American Chemical Society, Washington, DC, 1998. 446 pp. \$24.95 *pb* ISBN 0-8412-3444-2

Beliefs-Preferences Gauge Symmetry Group and Replication of Contingent Claims in a General Market Environment. V. A. Kholodnyi. IES Press, Research Triangle Park, N.C., 1998. 436 pp. \$149.00 *hc* ISBN 0-9663032-1-0

The Lamp of Learning: Two Centuries of Publishing at Taylor & Francis. 2nd edition. W. H. Brock, A. J. Meadows. Taylor & Francis, Bristol, Pa., 1998 [1984]. 288 pp. \$55.00 *hc* ISBN 0-7484-0265-9

Leonardo's Mountain of Clams and the Diet of Worms: Essays on Natural History. S. J. Gould. Harmony Books (Crown Publishers), New York, 1998. 422 pp. \$25.00 *hc* ISBN 0-609-60141-5

The Physics Handbook: Fundamentals and Key Equations. C. P. Poole Jr. Wiley, New York, 1998. 493 pp. \$125.00 *hc* ISBN 0-471-18173-0