

BOOKS

aren't mixing and so are not very typical. The second part presents the crucial notion of entropy per unit time for dynamical systems, and the next two sections expose many of the ideas that are so basic to recent studies of chaos: Sharkovski's ordering (the set of ideas that includes the one for which, for maps of the interval, the existence of period-three points implies points of every other period), Feigenbaum universality, twist maps and the Aubry-Mather theory, strange attractors and the Lorenz map. The final sections focus on the roles of Gibbs measures and of notions based on a formal analog with thermodynamics in the study of certain kinds of dynamical systems.

No other book that I can think of covers this range of topics with the level of clarity that this book does. The closest works would be the 25-year-old book of Andrew Avez and Vladimir I. Arnold, *Ergodic Problems of Classical Mechanics*, (Benjamin, 1968), Sinai's 1977 book *Introduction to Ergodic Theory* (Princeton, 1977) and the monograph by I. P. Cornfield, S. V. Fomin and Sinai, *Ergodic Theory* (Springer, 1982). In some ways, the current lectures update Sinai's earlier expositions, but they do it in a way that does not require the reader to be familiar with those earlier works. About my only complaint is that I wish the index were a lot longer than two pages. I can't imagine a better choice than this book for someone wanting to come up to speed with modern developments in mathematical ergodic theory.

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NEW BOOKS

Particle Physics

Discovery of Weak Neutral Currents: The Weak Interaction Before and After. *AIP Conference Proceedings 300.* Proc. Symp., Santa Monica, Calif., February 1993. A. K. Mann, D. B. Cline, eds. AIP, New York, 1994. 676 pp. \$135.00 *hc* ISBN 1-56396-306-X

Dynamics of the Standard Model. *Cambridge Monographs on Particle Physics, Nuclear Physics and Cosmology 2.* J. F. Donoghue, E. Golowich, B. R. Holstein. Cambridge U. P., New York, 1994. 558 pp. \$39.95 *pb* ISBN 0-521-47652-6

Lepton and Photon Interactions. *AIP Conference Proceedings 302.* Proc. Symp., Ithaca, New York, August 1993. P. Drell, D. Rubin, eds. AIP, New York, 1994. 838 pp. \$175.00 *hc* ISBN 1-56396-106-7

Neutrinos in Physics and Astrophysics. *Contemporary Concepts in Physics, Vol. 8.* C. W. Kim, A. Pevsner. Harwood,

Langhorne, Pa., 1993. 429 pp. \$28.00 *pb* ISBN 3-7186-0567-8

Particle Physics at the Fermi Scale. *CCAST (World Laboratory) Symposium/Workshop Proceedings, Vol. 10.* Proc. Symp., Beijing, China, May-June, 1993. Y. Pang, J. Qiu, Z. Qiu, eds. Gordon and Breach, Langhorne, Pa., 1994. 492 pp. \$108 *hc* ISBN 2-88449-108-2

Stability of Particle Motion in Storage Rings. *AIP Conference Proceedings 292: Particles and Fields Series 54.* Proc. Wksp., Brookhaven, New York, October

1992. M. Month, A. G. Ruggiero, W. Weng, eds. AIP, New York, 1994. 502 pp. \$135.00 *hc* ISBN 1-56396-225-X

Techniques and Concepts of High-Energy Physics VII. *NATO ASI Series B: Physics Vol. 322.* Proc. Inst., St. Croix, US Virgin Islands, July 1992. T. Ferbel, ed. Plenum, New York, 1994. 266 pp. \$85.00 *hc* ISBN 0-306-44674-X

Techniques for Nuclear and Particle Physics Experiments: A How-to Approach. Second revised edition. W. R. Leo. Springer-Verlag, New York, 1994

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Transducers and Their Elements. A. D. Khazan. Prentice-Hall, Englewood Cliffs, N. J., 1994. 572 pp. \$66.00 hc ISBN 0-13-929480-5

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Dense Z-Pinch. *AIP Conference Proceedings 299.* Proc. Conf., London, U. K., April 1993. M. Haines, A. Knight, ed. AIP, New York, 1994. 720 pp. \$175.00 hc ISBN 1-56396-297-7

Society and Government

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Statistical Physics

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Path Integral Approach to Quantum Physics: An Introduction. *Texts and Monographs in Physics.* G. Roepstorff. Springer-Verlag, New York, 1994. 387 pp. \$59.00 hc ISBN 0-387-55213-8

Qualitative Methods in Continuum Mechanics. *Pitman Monographs and Surveys in Pure and Applied Mathematics, Vol. 72.* R. V. Goldstein, V. M. Entov. Wiley, New York, 1994. 279 pp. \$130.00 hc ISBN 0-582-08372-9

Quantum Groups: From Coalgebras to Drinfeld Algebras, A Guided Tour. S. Shnider, S. Sternberg. International P., Cambridge, Mass., 1993. 495 pp. \$28.00 hc ISBN 1-57146-000-4

Quantum Mechanical Irreversibility and Measurement. *World Scientific Series in Contemporary Chemical Physics, Vol. 3.* P. Grigolini. World Scientific, River Edge, N. J., 1993. 406 pp. \$68.00 hc ISBN 981-02-1317-4 ■



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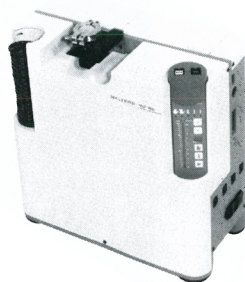
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