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solve acoustic-field problems. Following this line of reasoning, I wonder why a chapter on computer programming and techniques was omitted.

In general I feel that the work is much too lengthy for the important material on acoustic waves actually covered. Although the approach adopted by the author of following the lines of electromagnetic wave-propagation theory may be unique, I do not feel it to be useful except in special cases, and it can lead to misconceptions if the analogy is taken too far. The level of the book was set by the author for first- or second-year graduate students. In some sections this level seems to have been met, while other sections are definitely at the undergraduate level.

I am impressed with the number of detailed examples given in the text, but most of these could have been worked out in a more simple and compact manner. When an author has taken a unique approach and has written over 400 printed pages, I would have liked to be able to recommend the work most highly to everyone. Unfortunately, I cannot do so.

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Strongly Interacting Particles

R. Levi Setti, T. Lasinski

322 pp. U. of Chicago Press, Chicago, 1973. \$7.95 hardcover, \$3.95 paperback

Much has happened in the field of strongly interacting particles since 1963 when Riccardo Levi Setti published his first book in the series "Chicago Lectures in Physics," *Elementary Particles*. At that time new particles, both mesons and baryons, were being found at a rapid rate. In the last few years the growth rate of the field has slowed, and with roughly 300 states—depending on your bookkeeping methods—a text summarizing the field would be timely.

This book, also in the Chicago Lectures series, grew out of a one-quarter elementary-particle physics course given in 1971. The double-spaced typed notes have occasional hand drawn sketches, and as with most notes, the ideas are presented succinctly, making it easy to quickly find a point of interest.

The book begins with a quick mathematical review of groups, then goes through SU(2) to SU(3) and its use in classifying the particles and relating their couplings to one another. The methods used in the analysis of formation experiments are described in con-

siderable detail, including the S-Matrix, coupled channels, and the K-Matrix. After developing the formalism, the authors show results found for the pion-nucleon and K⁻-nucleon systems. They give only a brief (and rather mathematical) introduction to particle-exchange processes and finish with a brief description of the connection between low and high energies via dispersion relations.

While the classification scheme of SU(3) and the analysis of formation experiments are well covered, other topics, such as the discovery and analysis of meson resonances, are ignored. As stated in the introduction, the plan of the course "is highly subjective and incomplete, reflecting only the inclinations of the instructor at the present time." I expect that other instructors will have somewhat different inclinations and would not use this book alone. It is clearly written and will serve as a good text for those topics covered. The book should also be useful as a quick review and handy reference for workers in the field.

ROBERT E. DIEBOLD
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new books

Elementary Particles and Fields

Recent Advances in Particle Physics. (Annals of the NY Academy of Sciences, Vol. 229. F. Cooper, ed. 265 pp. NY Academy of Sciences, New York, 1974. \$26.00

Nuclei, Nuclear Physics

NBS Reactor: Summary of Activities July 1972 to June 1973. R. S. Carter. 125 pp. US Dept. of Commerce, Washington, D. C., 1974. (Available from the US Government Printing Office, Washington, D. C. 20402 for \$1.55)

Nuclear Structure Study With Neutrons. (Conf. Proc., Budapest, 31 July-5 August 1972). J. Erő, J. Szűcs, eds. 514 pp. Plenum, New York, 1974. \$27.50

Atoms and Molecules

Internal Rotation in Molecules. W. J. Orville-Thomas, ed. 606 pp. Wiley, New York, 1974. \$39.95

Chemical Physics

The Interpretation and Use of Rate Data: The Rate Concept. S. W. Churchill. 510 pp. McGraw-Hill, New York, 1974. \$13.95

Microwave Spectroscopy of Free Radicals. A. Carrington. 264 pp. Academic, New York, 1974. \$12.50

NMR: Basic Principles and Progress Vol. 8. P. Diehl, E. Fluck, R. Kosfeld, eds. 127 pp. Springer-Verlag, New York, 1974. \$23.80

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