Structure from reactions

STUDIES OF NUCLEAR REACTIONS. Vol. 33, Proc. (Trudy) P. N. Lebedev Physics Institute. D. V. Skobeltsyn, ed. Trans. from Russian by S. Chomet. 222 pp. Consultants Bureau, New York, 1966. Paper $22.50

by Henry S. Valk

Increasing interest has been displayed lately in the study of the structure of light nuclei as revealed through nuclear reactions. Many of these investigations have centered on excited states in the lightest nuclei, such as the alpha particle.

It is most timely, therefore, that we now have available a translation of *Studies of Nuclear Reactions*, volume 33 in the continuing series of the proceedings of the P. N. Lebedev Institute. This volume contains a series of nine experimental and theoretical papers in nuclear reactions.

For the most part, the articles are sufficiently detailed that they can be read with profit by physicists in other fields and by graduate students. This readability is particularly true of the first three papers which concern recent experimental results on the interaction of three-nucleon systems with protons and deuterons. For example, this reviewer found the dissertation "Interactions of Protons with Tritium at Energies Below the (p,n) Reaction Threshold" by A. B. Kurepin a most valuable summary of the work in this area prior to 1965.

The usefulness of the current volume makes one look forward to the release of others in this series.

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The reviewer, chairman of the physics department at the University of Nebraska, is interested in high-energy and theoretical physics.

Controversial deformation theory

PARTICLE WAVES AND DEFORMATION IN CRYSTALLINE SOLIDS. By Edwin R. Fitzgerald. 249 pp. Interscience, New York, 1966. $11.95

by Walter G. Mayer

Some of the unique ideas concerning particle waves in solids discussed in this book have already been published