mate WKB result commonly presented in textbooks and not to the exact WKB result, for which the penetrability for a general (single-peaked) barrier is analogous to that for a parabolic barrier. Also, there is no warning that the entries in Table VII-9 for x and y close to zero are substantially inaccurate, and there are small errors in figures III-8, IX-2, and XI-16.

The past few years have witnessed a fruitful interaction between fission and other branches of physics. With the development of heavy-ion accelerators that are capable of exploring other aspects of nuclear deformations, this interaction should be even stronger in the coming years. By providing an interesting and understandable account of the foundations of fission, the present volume is certain to contribute to this cross fertilization.

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Experimental Physics for Students

R. M. Whittle, J. Yarwood
370 pp. Halsted, New York, 1973. $13.25

This book is a huge compilation of about 200 experiments suitable for an undergraduate physics laboratory. The authors are R. M. Whittle, senior lecturer in physics and J. Yarwood, professor of physics, both at the Polytechnic of Central London. Its major emphasis is on classic experimental techniques in geometrical and physical optics (five chapters), thermal measurements, electrical circuits (three chapters), magnetism, nuclear physics and vacuum techniques. The experiments are part of the British undergraduate curriculum. Thus as one might expect they rely less on electronic measurement techniques and more on classic experimental measurements. Completion of these experiments provides a firm grounding in a wide variety of techniques using, for example, spectrometer, traveling microscope and cathetometer.

The compilation gives the essential description of the apparatus and theory of each experiment but beware, details on building or debugging are not treated. The latter would be an impossible task for a collection such as this. One of the best chapters in the text is the first one, "Error of Observation." Types of errors, error calculation, statistical treatment of errors, distribution, curve fitting—all these topics are treated clearly and concisely providing a valuable and quick reference for any experimentalist. Building up and performing of all the experiments in several chapters such as spectroscopy and vacuum practice would provide an excellent "mini-course" (one month) for freshmen and sophomore science majors. Worthwhile practical "mini-courses" for these groups are often hard to design. For an American audience these experiments would probably not form a complete introduction to experimental physics. American physics curricula usually recognize the need for students to become familiar with current research techniques and an early introduction to sophisticated electronic devices (multichannel analyzers, versatile oscilloscopes) is an important part of our physics major. However, the goal of these experiments as stated in the book is to provide the student with a wide range of experiments and techniques, give him a feeling for errors, and to give a feeling of security with a simple measuring apparatus. The text is well written, the choice and order of experiments is excellent, and the stated goal is certainly achieved.

Many of the experiments are standard in most American teaching laboratories; however, quite a few of the more classic type in optics and mechanics are not generally known. Thus, because of the wide range of experiments, some of which are currently going out of style, the value of this book will be as a source of classic teaching experiments that one might otherwise have to hunt out of journal indices.

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new books

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High Energy Electron Scattering. R. A. Bonham, M. Fink. 311 pp. Van Nostrand Reinhold, New York, 1974. $24.50

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Advances in Chemical Physics Vol. 26. I. Prigogine, S. A. Rice, eds. 317 pp. Wiley, New York, 1974. $24.95

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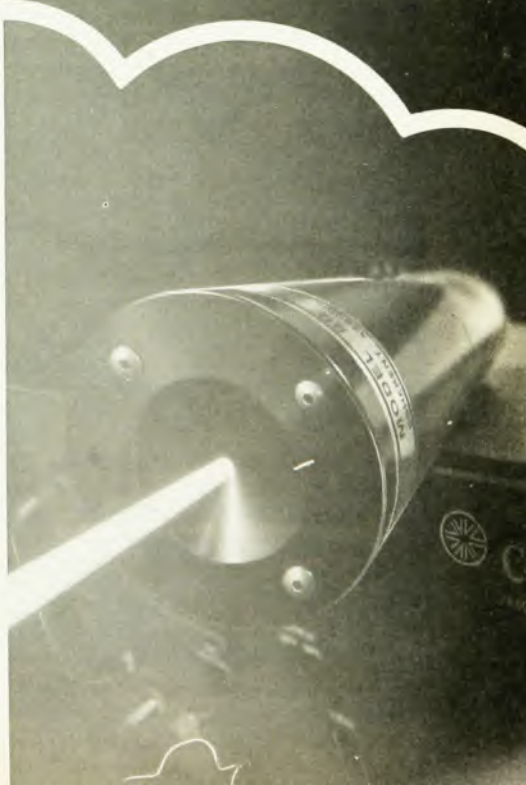
Introducere in Holografie. V. I. Vlad. 235 pp. Editura Academiei Republicii Socialiste Romania, Bucuresti, 1973.



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