

$$Q = \sum \epsilon_1 \exp \left[-\frac{\epsilon_1}{RT} \right]$$

$$U = \frac{RT^2}{Q} \left[\frac{\partial Q}{\partial T} \right]_V$$

$$\frac{p_2 - p_1}{p_1} = \frac{2 \gamma}{\gamma + 1} (M^2 \sin^2 \beta - 1)$$

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tion. Persons interested in attending should direct inquiries to: Dr. Ralph Llewellyn, Physics Department, Rose Polytechnic Institute, Terre Haute, Ind. 47803.

The National Bureau of Standards, as in two previous winters, is sponsoring precision-measurement seminars for measurement and standards laboratory personnel. These gatherings will discuss problems in measuring physical quantities and calibrating instruments primarily at accuracy levels used in the Bureau's own calibration services. Sessions will include lectures and group discussions, supplemented by lab demonstrations, and will take place at NBS facilities in Washington, D. C., or Boulder, Colo. A list of remaining seminars follows:

precision thermometry below 273°K (Jan. 11-13) apply to Dr. Harmon Plumb, Heat Division, NBS, Washington, D. C. 20234.

length measurements (Feb. 7-11) apply to T. R. Young, Metrology Division, NBS, Washington, D. C. 20234.

precision and accuracy in measurement and calibration (Feb. 14-16) apply to J. M. Cameron, Applied Mathematics Division, NBS, Washington, D. C. 20234.

high frequency and microwave noise (March 1-4) apply to Charles K. S. Miller, Microwave Calibration Services, NBS, Boulder, Colo. 80301.

high frequency and microwave field strength (March 7-9) apply to Harold E. Taggart, High Frequency Calibration Services, NBS, Boulder, Colo. 80301.

PhD and MS physics programs

What would be the most suitable graduate physics departments for your physics majors? What kind of requirements and preparation are demanded? Some answers to these and other questions that beset advisors of prospective physics graduate students can be found in two compendia recently issued by the American Institute of Physics.

Doctoral Programs in Physics, compiled by Miss Leona Vizbara of AIP's Education Department, presents information on 141 American institutions that grant the PhD in physics. Included are such data as graduate faculty, research specialties, staff, facilities, PhD requirements, assistantships and

fellowships, graduate student statistics, and academic environment. While intended particularly for student advisors, the book may also prove of interest to teachers as a broad summary of the quality of physics preparation graduate departments are now requiring of undergraduates.

Master's Degree Programs in Physics provides information for graduate students and their advisors on 116 institutions. Compiled by Mrs. Margot Breslaw of AIP's Education Department, the volume offers data on graduate assistantships, MS requirements, research specialties, and facilities. Institutions that were known to offer master's degree programs in physics, but that did not provide information to AIP, are listed by name, address, and department chairman.

Copies of the above publications are being sent to chairmen of the 767 US physics departments offering a physics major. Additional copies can be obtained from the AIP, 335 East 45th Street, New York, N.Y. 10017.

Visiting memberships

New York University's Courant Institute of Mathematical Sciences has announced that applications are being accepted for its 1966-67 visiting membership program. The memberships are open to mathematicians, engineers, and other scientists who hold doctorates, and are compensated in accordance with the visitors' professional status. A visiting member has no other duties than to reside at the Institute and participate in research activities. For application forms (deadline February 1) and further information write to the Visiting Membership Committee, Courant Institute of Mathematical Sciences, New York University, 251 Mercer Street, New York.

Graduate programs

Vanderbilt University is inaugurating a master's degree program in astronomy. Besides preparing students who intend to go on for their doctorate, the program will help fill the need at Vanderbilt's Dyer Observatory for personnel trained in research tech-