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obtained from Prof. John C. Reed, Mechanical Engineering Department, University of Florida, Gainesville, Fla.

Solid-State Microwave Amplifiers

MASERS, parametric amplifiers, and related resonance studies are to be covered this spring at the University of Nottingham during a conference on solid-state microwave amplifiers. The meeting, which is being arranged by the Electronics Group of the British Institute of Physics in conjunction with the Radio Spectroscopy Group, is scheduled to take place April 6-8. Participants may be accommodated in one of the University's residence halls. Further information and application forms may be obtained from The Secretary, The Institute of Physics, 47 Belgrave Square, London, S. W. 1, England.

Superconductivity and Computing Systems

CONVENED for the purpose of allowing the many scientists and engineers who are currently engaged in cryogenic device research to present a complete picture of the present status of the applications of superconductivity to computers, computing systems, and information processing devices, a symposium will be held on May 17 and 18 in the Department of Interior Auditorium in Washington, D. C., under the sponsorship of the Information Systems Branch of the Office of Naval Research. Marshall C. Yovits of ONR will serve as symposium chairman.

Approximately 16 to 18 papers emphasizing device aspects have been invited from organizations in the United States which conduct research in relevant areas. Attendance at the Symposium on Superconductive Techniques for Computing Systems is open to all interested persons. Those wishing to receive further information and a preliminary program when it becomes available should contact Miss Josephine Leno, Code 430A, Office of Naval Research, Washington 25, D. C.

Frequency Control

MAY 31 to June 2 are the dates of the 14th annual Frequency Control Symposium, which is to take place at the Shelburne Hotel in Atlantic City, N. J., under the sponsorship of the US Army Signal Research and Development Laboratory. The program will include papers dealing with piezoelectric resonators; fundamental properties and synthesis of quartz, crystal oscillators, and filters; masers; gas cells; atomic beam devices; and applications of atomic frequency standards, including world-wide clock synchronization. Further information may be obtained from the symposium chairman, E. A. Gerber, Frequency Control Division, US Army Signal Research and Development Laboratory, Fort Monmouth, N. J.

High-Velocity Deformation in Metals

A CONFERENCE on The Response of Materials to High-Velocity Deformation will be held by The Metallurgical Society of AIME on July 11 and 12 in

KNOWLEDGE—OUR CHALLENGE!



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● By performing basic and applied research in radio propagation, radio systems, radio standards, and cryogenic engineering, PHYSICISTS, MATHEMATICIANS, and ELECTRONIC ENGINEERS can contribute to the NBS goal of leadership in these fundamental areas in an atmosphere which enhances opportunities for individual advance in professional status.

● Close to the University of Colorado, large city (Denver) advantages, and mountain recreation (winter and summer), the Boulder Laboratories Professional Staff is a research group, moderate in size but tremendous in the scope of its national and international activities.

● Positions are filled in accordance with applicable U. S. Civil Service procedures. Starting salaries range from \$4,490 to \$12,770 per year. Address inquiries to:

Roy W. Stockwell, Jr.,
U. S. Department of Commerce,
National Bureau of Standards, Boulder, Colorado

THE UNIVERSITY OF MANITOBA

Physics Department

This Department expects to begin almost immediately the construction of a spiral-ridge cyclotron to produce 50 Mev protons, and applications are invited for the following positions:

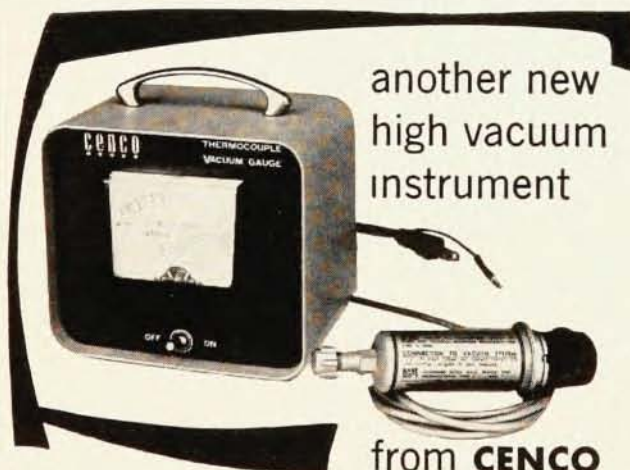
- (1) Nuclear physicist with experience in this or closely related fields.
- (2) Electronics engineer or physicist with high qualifications and preferably with varied experience, particularly in control, rf or nuclear electronics.
- (3) Engineer with experience in building and maintaining scientific apparatus.
- (4) Machine shop foreman—an expert machinist and mechanical designer.
- (5) Two technicians.

Specifications as given above are not rigid, and may be varied for a suitable applicant whose experience overlaps these categories. Specific experience with cyclotrons is of course a strong recommendation.

It is expected that most of these positions will be permanent. The first and second appointments will be made to the rank of Assistant or Associate Professor, with salary scales \$7,000-\$8,900 and \$9,000-\$11,700 respectively, or to non-academic positions at equivalent salaries. Salaries for the remaining positions will depend on qualifications and experience.

Application should be made as soon as possible to:

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Physics Department
University of Manitoba
Winnipeg 9, Manitoba, CANADA.



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Estes Park, Colo. Papers will have to do largely with the crystallographic, metallographic, and basic metallurgical phenomena that occur in metals under high strain rate. The meeting, it is emphasized, will *not* be concerned with explosive forming methods or engineering.

The purposes of the meeting are "to effect an exchange of such information as has been developed but not published, to afford discussion of controversial areas by bringing together the leading experimentalists in the field, to compile in one publication a summary of the most important current research programs in the field, and to stimulate more work in this field". The proceedings will be published in cooperation with Interscience Publishers, Inc., and will constitute another volume in the "Metallurgical Society Conferences" series.

Further information on the conference may be obtained from The Metallurgical Society of AIME, 29 West 39th Street, New York 18, N. Y.

Computers and Data Processing

THE Denver Research Institute of the University of Denver will hold its 7th Annual Symposium on Computers and Data Processing on July 28-29 at the Stanley Hotel, Estes Park, Colo. The continuing theme of this series of meetings has been the advanced treatment of basic problems in computer technology. At this year's symposium, the program will consist of papers dealing with components and devices, logic design, and the philosophy of computer design. Although the emphasis will be placed on invited papers, a limited number of contributed papers will be accepted for presentation. Prospective authors should send 150-word abstracts (no later than April 1) to W. H. Eichelberger, Denver Research Institute, University of Denver, Denver 10, Colo.

Physics Education

THE International Union of Pure and Applied Physics is sponsoring an International Conference on Physics Education to be held at UNESCO House in Paris, from July 28 to August 4, 1960. The organizing committee has been set up under the chairmanship of Sanborn C. Brown of MIT. Norman Clarke of the Institute of Physics in London will serve as conference secretary. The rest of the committee includes Hilliard Roderick (UNESCO), P. Fleury (France), Elmer Hutchisson (USA), Tosiro Kinbara (Japan), W. Kroebel (Germany), E. Persico (Italy), and Louis Weil (OECE). A representative of the Soviet Union has also been asked to serve.

The scope of the conference will be the whole range of education in physics from the stage at which children are first introduced to physics as a separate subject up to problems of higher technological education and postgraduate training. In order to insure fruitful discussion the number of participants will be limited to 150 or less, with a consequent limitation upon the num-

ber of delegates from any one country. The committee has already been assured of generous financial and other support by the Organization for European Economic Cooperation and the Asia Foundation, and it is expected that support from other agencies will also be forthcoming.

The program of the conference will probably be divided somewhat as follows:

- (a) The content of physics courses;
- (b) Selection and organization of experimental work, the place and nature of problems and exercises;
- (c) Methods of examination, the selection of students for university physics courses;
- (d) Problems of special interest to industry, including physics courses for technicians and technologists; and
- (e) PhD and other postgraduate courses, including training in courses for teachers.

The aim of the Organizing Committee is to secure papers which deal with attempted solutions of problems in physics education which are common to many countries or such matters as experiments in better or wider presentation of physics courses. It is not intended that the time of the conference should be spent in considering contributions which merely give factual information about educational systems in various countries. Information of this kind will be prepared in advance and will be circulated before the meeting to those who will attend. All papers accepted for presentation will be printed and circulated to the delegates before the conference convenes. These will not be read in full at the conference, but will be described briefly so that maximum time will be available for their discussion. The proceedings of the conference will be edited, condensed, and published in a volume which the organizing committee hopes will be a valuable document for the guidance of all who are concerned with the development of education in physics. The conference will also include an exhibition of books and apparatus and a display of educational films arranged by a committee of which W. C. Kelly of the American Institute of Physics is a member. Besides Drs. Brown, Hutchisson, and Kelly, delegates chosen to represent the US at the conference are J. W. Buchta, associate dean at the University of Minnesota; L. O. Olsen, professor of physics at Case Institute of Technology and president of the American Association of Physics Teachers; F. W. Sears, head of Dartmouth's Physics Department and past president of AAPT; C. G. Suits, vice president of General Electric; H. E. White, professor of physics at the University of California; and J. R. Zacharias, professor of physics at MIT.

Astronautics

SESSIONS of the eleventh International Astronautical Congress, which is to take place August 15-20 at The Royal Institute of Technology in Stockholm, are planned in the following subject areas: basic sciences; planetary atmosphere environments; interplane-