

and antiferromagnetism having been proven to everyone's satisfaction, attention is being concentrated on the complex but fascinating details and refinements necessary in many special cases. Some high lights in this area were E. W. Gorter's contribution from the Philips Laboratories which showed the great value of the combined use of careful chemistry, precise physical measurements, and detailed theory; the study of resonance near compensation points by the NOL group and Philips, particularly the NOL observation of the "exchange frequency" resonance which is an important new confirmation of theory; and the Brookhaven neutron diffraction results. These and other contributions nicely outlined the one greatest remaining problem, that of antiferromagnetic ordering on the B sites.

The problem of the origin of losses in ferrites continues to be important; Smit's contribution, also from Philips, and others reinforced recent indications that at least part of the losses have to do with the rearrangement of Fe^{++} valence states in the lattice. However, there remains a great deal of uncertainty in this whole area.

Finally, the neutron diffraction results of Roth on transition metal oxides of perovskite structure deserve special mention both as confirmation of Zener's hypothesis of ferromagnetic "double exchange" when valence states are mixed, and as further clarification of the relationship between ferrimagnetism and ordering of valence states. These are only some of the interesting and important papers, even on the subjects mentioned.

All who attended (185 from outside NOL) were grateful for this chance to catch up formally and in informal discussions with recent progress in our rapidly-growing field in the pleasant surroundings provided by our Naval Ordnance Laboratory hosts.

Philip W. Anderson
Bell Telephone Laboratories

Electrical Discharges in Gases

An international symposium on electrical discharges in gases will be held in the Netherlands (April 25-30) at the Technical University at Delft. It has been organized with the support of Unesco and with the help of the International Union of Pure and Applied Physics, the Technical University at Delft, and the Philips' Works at Eindhoven.

According to a preliminary announcement, the following main subjects will be discussed: (1) fundamental processes and new views on the mechanism of gas discharges; (2) instabilities and conditions of stability, oscillations, and noise phenomena; (3) breakdown potential; (4) new methods of measurement and application of gas discharges to other physical problems as a method of measurement; (5) arc discharges; (6) spark discharges; and (7) miscellaneous topics, including geiger counters and ion sources. In addition, invited papers are to be given by H. S. W. Massey (London), L. B. Loeb (Berkeley), C. van Geel (Delft),

OUTSTANDING McGRAW-HILL BOOKS

RADIOISOTOPES IN BIOLOGY AND AGRICULTURE. *Principles and Practices*

By C. L. COMAR, Oak Ridge Institute of Nuclear Studies. Ready in May

Brings to the student and investigator an appreciation and understanding of how radioisotopes can fit into his program, then shows how the experimental work can be undertaken. Basic principles are presented clearly and are illustrated by examples from many diverse fields. The details of experimentation include a description of the facilities required and procedures suitable for studies. Here, in one volume, is the necessary biological and chemical information for radioisotope tracer studies.

MODERN PHYSICS

By JOHN C. SLATER, Massachusetts Institute of Technology. Ready for fall classes.

Here is an outstanding new work which offers an elementary survey of modern physics, including its development from about 1900 to the present. The aim is to follow the development of the ideas of modern physics, in particular the quantum theory, and its application to the structure of atoms, molecules, solids, and the atomic nucleus. The keynote of the treatment is the logical historical development of 20th Century physics, showing how each of the great new theories followed each other almost inevitably.

MOLECULAR VIBRATIONS: *The Theory of Infrared and Raman Vibrational Spectra*

By E. BRIGHT WILSON, JR., Harvard University, JOHN C. DECIUS, Oregon State College, and P. C. CROSS, University of Washington. 390 pages, \$8.50

This work covers the theory of the vibrations of polyatomic molecules and the applications of their theory to the interpretation of infrared and Raman spectra. Particular emphasis is laid on providing a sound foundation for understanding and utilizing the symmetry of molecules to simplify calculations. Advanced mathematical techniques, such as matrix algebra and group theory, are developed in the book as needed.

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The languages to be used are English, French, and German; however, English will be preferred in the discussions. Two days are reserved for excursions. A program for ladies visiting Delft but not attending the symposium will be arranged. Inquiries concerning the symposium should be addressed to the Secretary of the Symposium Committee, Ir A. W. van Wagensveld, Mijnbouwplein 11, Delft, Netherlands.

URSI Spring Meeting

The Spring Meeting of the International Scientific Radio Union (URSI) will be held May 3-5 at the National Bureau of Standards in Washington. Symposium on the forward scattering of radio waves, theoretical aspects of ferrites at microwave frequencies, the mechanisms and limitations of microwave noise sources, and multi-mode microwave transmission systems are planned. In addition, one or more technical sessions are scheduled for the following subjects: radio measurements and standards; radio and troposphere; ionospheric radio; radio noise of terrestrial origin; radio astronomy; radio waves and circuits; and radio electronics. For further information write William E. Gordon, School of Electrical Engineering, Cornell University, Ithaca, New York.

High-Polymer Physics

The Division of High-Polymer Physics of the American Physical Society will hold its 13th meeting in Baltimore, Md., Lord Baltimore Hotel, March 17-19, jointly with the meeting of the APS. The program, arranged by a committee headed by Thomas DeWitt, Mellon Institute, includes a symposium on physical investigations of nucleic acid, as well as papers on other protein polymers and on the rapid impact behavior of textile polymers. In a recent election Thomas G. Fox and Robert Simha were elected to three-year terms on the Executive Committee of the Division.

Magnetism and Magnetic Materials

A conference on magnetism and magnetic materials is to be held June 14-16 at the Hotel William Penn in Pittsburgh under the sponsorship of the Magnetic Subcommittee of the American Institute of Electrical Engineers' Basic Science Committee, in cooperation with the American Physical Society and the American Institute of Mining and Metallurgical Engineers. The purpose of the meeting is to bring together those concerned with basic and applied work on magnetism and it is open to all who are interested. Those wishing to present papers should send abstracts of 200 to 500 words to Dr. R. M. Bozorth, Bell Telephone Laboratories, Murray Hill, New Jersey, by April 20th.