

Proceedings of the Southeastern Section of the American Physical Society

MINUTES OF THE ATLANTA, GEORGIA MEETING ON APRIL 12-13, 1946

THE twelfth annual meeting of the Southeastern Section of the American Physical Society was held in the Atlanta Biltmore Hotel, Emory University, and the Georgia School of Technology, Atlanta, Georgia, on Friday and Saturday, April 12-13, 1946. Approximately 175 members and guests attended. Local arrangements were made by a committee headed by F. E. Lowance.

The regular program consisted of fourteen papers, abstracts for eleven of which are appended hereto. Abstracts of the other papers will be found in the May-June issue of the *American Journal of Physics*.

Additional features of the program were: invited papers, "The Development of Atomic

Energy," by F. G. Slack and "The Periodical Literature of Physics—History, Characteristics, and Trends," by Duane Roller; an address, "New Opportunities and New Responsibilities for Scientists," by M. D. Whitaker; and a demonstration-symposium on microwave techniques, by members of the Georgia Tech Physics Department.

At the business meeting the election of the following officers for the Section was announced: Chairman, Rose C. L. Mooney; Vice-Chairman, J. H. Howey; Secretary, Eric Rodgers; Treasurer, C. B. Crowley; and Member of the Executive Committee, E. Scott Barr.

The time and place for the 1947 meeting are to be announced later.

E. SCOTT BARR, *Retiring Secretary*

ABSTRACTS

1. The Kentucky Electrostatic Generator. L. A. PARDUE AND CLYDE B. CRAWLEY, *University of Kentucky*.—A description of the construction and operating characteristics of the Kentucky electrostatic generator is given. The generator is the Van der Graaff pressure type producing a voltage of 300 to 400 kv at atmospheric pressure and about 1.4 mv under several atmospheres of pressure. Provision is made for completely drying the air before admitting it to the tank. A target assembly with magnetic analyzer is a part of the equipment and such auxiliary equipment as cloud chambers, counters, electroscopes, etc. are under construction. The voltages mentioned above are calculated from the deflection of a hydrogen beam in the known magnetic field of the magnetic analyzer.

2. The Geiger Counter as an X-Ray Dosimeter. WALLACE F. FULLER AND A. A. BLESS, *University of Florida*.—The possibility of using a Geiger counter as an x-ray dosimeter has been investigated. The frequency of counts is directly proportional to the r output of a tube as measured by a standard r meter. The counter will give results reliable to a few percent when used in the verification of the inverse square law, or the laws of absorption. While the accuracy of the counter is not as high as that of FP-54, for example, it is entirely sufficient for the measurements of the dosage in biological experiments and, when properly calibrated, can be used in place of more expensive r meters. The sensitivity of the counter is very high. It can measure with fair accuracy weak intensities of scattered radiation of the order of $10^{-5}r$ per minute.

3. New Measurements on the Infra-red Spectrum of $C^{12}O^{16}$ and $C^{13}O^{16}$. R. T. LAGEMANN,* A. H. NIELSEN,† AND F. P. DICKEY,‡ *Mendenhall Laboratory of Physics, The Ohio State University, Columbus, Ohio*.—In repeating the measurements of Whitcomb and Lagemann¹ on the infra-red spectrum of CO, Lagemann,² using a 2887 line-per-inch grating, was able to resolve the rotation lines of $C^{13}O^{16}$ as well as those of $C^{12}O^{16}$. As these measurements were not completed, the problem was again undertaken using a 7200 line-per-inch replica grating in the same prism-grating spectrometer. Both the fundamental vibration region at 4.65μ and the first overtone vibration region at 2.35μ are being completely remeasured. Most of the rotation lines of the normal and isotopic CO are well resolved. Combination relations are being applied to this data and new values of the vibrational and rotational constants for these molecules are being computed.

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¹ S. E. Whitcomb and R. T. Lagemann, *Phys. Rev.* **55**, 181 (1939).

² R. T. Lagemann, *J. Chem. Phys.* **10**, 193 (1942).

4. Plasticity Versus Elasticity in Stretched Rubber as Indicated by Creep Interference with the Joule Effect. MILTON L. BRAUN, *Catawba College*.—Both rubber and neoprene bands have been stretched with constant loads up to six times their original length, and maintained under these stresses for several years. No deterioration is detectable. Changes in length have been observed as a