

Meetings

Gaseous Electronics

Gaseous electronics, being the study of phenomena which are often the result of simultaneous ionization, diffusion, space charge effects, recombination, and other processes, is a field in which it is peculiarly difficult to see the trees for the forest. The sixth annual conference on the subject, held in the Shoreham Hotel in Washington, D. C., October 22-24, was concerned largely with a continuation of the attempt to untangle the various fundamental processes and to see in what way they enter in physical experiments. Joint sponsors for this meeting were the Division of Electron Physics of the American Physical Society and the Office of Naval Research. The meeting is believed to have been the largest yet in number of registrants (228), organizations represented (110), and contributed papers (44). Although there were many interesting reports, it is possible in this space to mention only a few.

The use of microwave techniques for studying the properties of discharges is becoming more widespread. Two papers by J. M. Anderson and L. Goldstein discussed the effect of microwave power on the quenching of discharges, and L. Gould used somewhat similar techniques for measuring the velocity dependence of the collision cross section of slow electrons in helium. B. J. Udelson and J. E. Creedon reported measurements of the frequency of collision of electrons with hydrogen molecules, and D. H. Looney presented experimental evidence regarding the excitation of plasma oscillations.

Various aspects of the breakdown mechanism were discussed: L. B. Loeb's group dealt with the formation of coronas and streamers, and both his and L. Fisher's groups were concerned with the formative time lags involved. Electron-ion dissociative recombination continues to be the subject of lively investigation. A. C. Faire, O. T. Fundingsland, and A. L. Aden measured the effect of nitrogen over an extended pressure range; M. A. Biondi described an experiment designed to measure the Doppler line-broadening arising from such processes. K. B. Persson showed that for the case of hydrogen, the observed effect may be due to diffusion and not recombination at all.

The behavior of ions and metastable atoms was the subject of several papers; for example, H. D. Hagstrum discussed the reflection of ions as ions or metastable atoms at a metal surface, and A. V. Phelps and J. L. Pack illustrated a new optical technique used in the study of metastable atoms. The mechanism of sputtering by ion bombardment is receiving much interest, and several papers were presented; one of them, by

G. K. Wehner, showed experimentally that the mechanism is indeed one of momentum transfer.

C. S. Duffendack and C. F. Hendee, and S. Fine, discussed x-ray absorption in proportional Geiger counters. In the same vein, the one invited paper by L. Colli and U. Facchini of CISE, Milan, reported the use of counter techniques in studying the ultra-violet photons emitted in the decay of metastable argon atoms. Five papers were presented on the very difficult subject of arcs. In one of these, J. D. Cobine and E. E. Burger calculated the evaporation rate of the electrode material in high-pressure high-current arcs.

A cocktail hour and banquet was indulged in on Friday evening. The guest speaker, Captain C. W. Shilling, senior medical officer at the U. S. Naval Academy, clearly pointed out the usefulness of basic research, *both for its intended purpose, and for its applicability to seemingly unrelated problems.*

Chairman for the meeting was W. P. Allis. Also on the conference committee were W. R. Gruner (secretary), L. Malter, R. N. Varney, M. A. Biondi, and H. D. Hagstrum. The committee for the 1954 meeting is: W. P. Allis (chairman), L. Fisher (secretary), E. O. Johnson, W. Gruner, H. D. Hagstrum, M. A. Biondi, S. Githens, and M. Kuper.

Copies of the abstracts of contributed papers may still be available; if so, they are obtainable gratis on request to the Office of Naval Research, Code 421, Washington 25, D. C.

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Seminar on Spectroscopy

The 2nd annual seminar on spectroscopy will be held February 17-19 at the University of Florida in conjunction with the spring meeting of the Southern Association of Spectrographers. Topics include production and interpretation of spectra for analysis, computational methods, instrumentation, etc. For details, write to Professor W. T. Tiffin, College of Engineering, University of Florida, Gainesville, Florida.

Semiconductor Conference

The Netherlands Physical Society, with the support of IUPAP and Unesco, is organizing an international conference on semiconductors in Amsterdam from June 29th to July 3rd. The meeting will include five morning sessions of invited papers and several afternoon sessions of short contributed papers and will cover both theoretical and experimental aspects of the subject, with emphasis on such topics as the band picture of the solid state, recombination, and related problems. Planning for the Amsterdam conference was coordinated with the organization of a meeting to be held in Bristol, July 12-17 on defects in crystalline solids and it is expected that the two conferences will complement one another. Those wishing to take part in the semiconductor conference should write as soon as possible to the conference secretary, Dr. H. J. Vink, Floralaan 142, Eindhoven, Holland.