

spectrum of ruby provided more direct evidence of a small displacement of transition-metal ions from the normal Al ion site. Schawlow (Bell Laboratories) reported on the fine-line spectra of Cr^{+3} in MgO and in Al_2O_3 and showed how these spectra can provide information on the fields in crystals. E. W. J. Mitchell (Reading) discussed polarization of luminescence, particularly of diamond; and Morgan (Oak Ridge) presented some striking infrared spectra of polyatomic ions dissolved in alkali halides.

The third day of the conference was devoted to the equilibrium properties of dilute solid solutions. An important trilogy of papers on the interrelations of the concentrations of imperfections was presented by Lidiard (Reading), Brebrick (Lincoln, MIT) and Prener (GE). Lidiard considered point defects in alkali halides; the others, compound semiconductors. In addition, Prener included the effects of association of charged imperfections into ion pairs. Smakula (MIT) described very careful, new work on the hardness and absorption edge of mixed crystals of KCl and KBr . Finally, the Wednesday sessions were terminated by a comprehensive and lucid presentation on defect equilibrium mechanisms, particularly those involving dislocations, by J. W. Mitchell (Virginia). This paper laid the groundwork for some of the material of the final day of the conference.

The last day was devoted to kinetic processes, especially diffusion. Lawson (California, Riverside) reviewed the extensive investigations on transport processes in AgBr and made dramatically evident the many unsolved problems relating to the electrical, thermal, and mechanical properties of this material. From the effect of annealing on conductivity, Slifkin (North Carolina) deduced a binding energy for vacancy pairs in AgCl . Friauf (Kansas) discussed correlation effects involved in diffusion in silver and alkali halides and proposed that vacancy pairs may contribute to diffusion in CsBr , CsI , and TlI . Other papers on alkali halides were devoted to the effects of dislocations on conductivity and to the quantitative description of the formation and motion of vacancies. Finally, several papers were presented on proton conduction and dielectric and mechanical relaxation in ice crystals. For example, Eigen (Göttingen) compared the proton conduction of ice to the electron conduction of semiconductors.

In addition to the nine technical sessions, a banquet was held Wednesday evening at which Professor Löwdin gave his humorous version of "How to Prepare a Scientific Paper" and Dr. Klopsteg (Northwestern) outlined the scientific research programs of the host university.

In general, the objectives of the conference were achieved. The background material was authoritatively reviewed, new experimental results and theoretical ideas were presented, the chemists and physicists were to a good approximation indistinguishable, and the experimentalists were usually in attendance when the theorists presented papers. On the other hand, it sometimes

seemed that the theorists mainly talked to each other in the halls while the experimentalists presented papers.

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Field Emission Symposium

The Ninth Annual Field Emission Symposium, sponsored by the Department of Physics at the University of Notre Dame and by the Office of Naval Research, was held June 13-15 on the Notre Dame campus. E. A. Coomes served as local chairman, and ONR was represented by A. Shostak, head of the Laboratory's Electronics Branch. There were approximately eighty registrants. The program offered a total of twenty-nine papers on field-ion microscopy and field-electron microscopy, with application to surface physics and chemistry and the properties of metal whiskers. A topic of particular interest was the physics of cesium on tungsten, with regard to adsorption, migration, and desorption. The Linfield research group had its usual fine representation, both in papers presented and in the number of participants.

Among the key papers given were those on the subjects of field-ion microscopy of alloys (by E. W. Müller of Pennsylvania State), field desorption of Ba and Cs from tungsten (by R. Gomer of Chicago), an experimental study of field ionization (by M. J. Southon of Cambridge University), ion-microscopic observations of adatoms (by Gert Ehrlich of General Electric), and field-electron and field-ion emission from single vapor-grown whiskers (by A. J. Melmed of du Pont).

The tenth such symposium will probably be held in early September, 1963. T. H. George of the Union Carbide Corporation will serve as general chairman.

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High Polymers

Canada's National Research Council, in cooperation with the Chemical Institute of Canada, will sponsor the eleventh Canadian High-Polymer Forum at Essex College, Assumption University, Windsor, Ont., on September 5, 6, and 7. This year's forum lecturer will be A. Keller of the University of Bristol, England. The program chairman for the meeting, which will be devoted to all aspects of polymer science, is Dr. D. A. I. Goring, Pulp & Paper Research Institute of Canada, McGill University, Montreal, Que.

Magnetoplasmodynamics

A symposium on the magnetoplasmodynamic generation of electrical power is to be held in England September 6-8, at King's College, University of Durham, Newcastle upon Tyne. The meeting will be sponsored by the northeastern branch of the British Insti-