

Meetings

Physics of Ionic Crystals

Summary of Illinois Conference

The presence in this country of Professor Robert W. Pohl of Göttingen University was the occasion for a recent conference on the electrical and optical properties of ionic crystals. About 50 physicists and chemists visited the campus of the University of Illinois at Urbana on October 29 and 30 for discussion of recent advances in this field of research. Sponsored by the University of Illinois in cooperation with the Office of Naval Research, the program was under the joint chairmanship of Professors Frederick Seitz and R. J. Maurer.

After introductory remarks by Seitz, Professor Pohl opened the program with a discussion of recent investigations at Göttingen into the ionic conductivity of alkali halides, and the behavior of absorption bands at low temperatures. Lawson (University of Chicago) followed with a paper on the electrical conductivity of silver bromide at high pressures, and the evidence for the presence of Schottky defects.

Several papers were concerned with the properties of excitons; Apker and Taft (General Electric Research Laboratories) presented evidence on the effects of β -

centers in their photoelectric experiments, and Hebb (G.E.) discussed calculations on the interpretation of the energy distribution of the external photoelectrons. Brooks (Harvard University) presented a generalization of the exciton model of Wannier; and Heller (University of Illinois) discussed excitons in ionic crystals, with reference to their effective mass and their relation to the Lorentz "local field". Dexter (Illinois) described some calculations on capture and collision processes for excitons in the alkali halides.

Investigations of the properties of BaO were the subject of papers by Eisenstein (University of Missouri) and by Sproull and Krumhansl (Cornell University). Eisenstein described his experiments on luminescence, and Sproull the measurements at Cornell on photoconductivity and light absorption. Krumhansl reported on some cellular calculations on the energy bands in BaO by the method of Ewing and Seitz for LiF. Additional papers regarding crystals other than the alkali halides included those by Smakula (Engineering Research and Development Laboratory) on color centers in CaF_2 and quartz, by Schulman, Etzel, and Ginther (Naval Research Laboratory) on color centers in silver activated alkali halides, and by Williams (G.E.) on thallium activated KCl phosphors.

Several new properties of F and other related absorption bands were brought out in experimental papers by Markham and Duerig (Johns Hopkins Applied Physics Laboratory), Burstein (NRL), Dutton and Maurer (Illinois), Scott (Oregon State College), and Pringsheim, Yuster, and Delbecq (Argonne National Laboratory). Most of these workers described measurements in which changes in absorption bands with temperature were important.

As was to be hoped, with such a relatively small group, active discussion was contributed by most of those present. Several social gatherings encouraged informal conversations that helped make the conference of particular value to the participants.

D. L. Dexter
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R. W. Pohl (center), director of the Physical Institute, University of Göttingen, shown with F. Seitz (left) and R. J. Maurer of the University of Illinois, who served as joint chairmen of last October's conference on ionic crystals.

University of Illinois Newsphoto

Optical Society of America

Coming Rochester Section Meetings

The Rochester Section of the Optical Society of America usually holds its meetings on the second and fourth Tuesdays of each month at 8:00 P.M. in the Rochester Museum, 657 East Avenue, Rochester, N. Y. Members of the Institute of Physics who happen to be near Rochester at any of these times have been cordially invited to attend.

On January 8th, the Section will hold a joint meeting with the Photographic Society of America in the Dryden Theater, Eastman House, featuring addresses by J. G. Baker of Harvard College Observatory on "Recent Progress in Optical Systems for Aerial Photography and Astronomy", and J. J. Nassau of Case Institute of Technology on "Photographic Emulsions for the Study of Galactic Structure".