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 equilibration 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.

Ferd Williams
University of Delaware

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.

A. A. Petrauskas
University of Notre Dame

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.

Magnetoplasmadynamics

A symposium on the magnetoplasmadynamic 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-

tution of Electrical Engineers in collaboration with the University of Durham and units of the Institution of Mechanical Engineers and the Institute of Physics and Physical Society.

Contributions to the program, which will concern advances in plasma physics with particular reference to possible large-scale power-generation applications, are expected from specialists in the United Kingdom, Continental Europe, and the United States. Correspondence having to do with the meeting should be addressed to the Symposium Secretary, Institution of Electrical Engineers, North Eastern Centre, c/o C. A. Parsons & Co., Ltd., Heaton Works, Newcastle upon Tyne, 6, England.

Fermi Surfaces

A program to review recent work on Fermi Surfaces will be held from 2 to 5 PM, October 31, in the Sky Top Room of the Statler Hilton Hotel in New York City, during the fall meeting of the American Institute of Mining and Metallurgical Engineers. The program will be cosponsored by the Committees on Alloy Phases and on Chemistry and Physics of Metals of the Institute of Metals Division of the AIME. John A. Rayne of the Westinghouse Research Laboratories and Henry V. Bohm of Wayne State University will serve as chairmen.

The speakers and their topics will be W. A. Harrison, General Electric Research Laboratories, Theoretical Aspects; M. G. Priestly, University of Chicago, Magnetoresistance; A. V. Gold, Iowa State University, de Haas-van Alphen Studies; and R. W. Morse, Brown University, Magnetoacoustics. Further information can be obtained from J. O. Betterton, Jr., Metals and Ceramics Division, Oak Ridge National Laboratory, PO Box X, Oak Ridge, Tenn.

Radiation Hazards in Space

A symposium on Protection Against Radiation Hazards in Space will be cosponsored by the Oak Ridge National Laboratory, the Manned Spacecraft Center of the National Aeronautics and Space Administration, and the American Nuclear Society. To be held November 5, 6, and 7, the meeting will place particular emphasis on shielding problems, but will also cover the characteristics of space radiations and their effects on man and materials. A limited number of contributed papers will be considered for presentation (deadline for receipt of 600-word summaries is September 1). Correspondence should be addressed to Everitt P. Blizard, Oak Ridge National Laboratory, PO Box X, Oak Ridge, Tenn.

Information and Space Science

Computers in the Space Age will be the theme of the 1962 Joint Computer Conference, which will be held December 4–6 at the Sheraton Hotel in Philadelphia. The conference will meet under the auspices of the American Federation of Information Processing Societies, consisting of the Institute of Radio Engineers, the American Institute of Electrical Engineers, and the Association for Computing Machinery. Simulation Councils, Inc., an organization representing analog computer activities, will also participate as a cooperating society.

The technical program is expected to deal with such matters as information retrieval, the learning process, self-organization, gaming, pattern recognition, the man-machine interface, speech recognition, simulation techniques, cryogenics, programming theory, design automation, input and output advances, multiple computer systems, and the social and economic effects of computing technology. Further details can be obtained by writing to J. Wesley Leas, Radio Corporation of America, Camden, N. J.

American Geophysical Union

The Second Western National Meeting of the American Geophysical Union will be held December 27–29 at Stanford University, Stanford, Calif. Sessions are scheduled for the various AGU sections which are concerned with work in geodesy, seismology, meteorology, geomagnetism and aeronomy, hydrology, volcanology, geochemistry, petrology, tectonophysics, and planetary sciences. An opening joint plenary session with the American Physical Society has also been planned.

The deadline for submission of titles of papers and informative abstracts (not more than 200 words) is October 10. They should be sent to the general program chairman for the meeting, Prof. Joseph Kaplan, Department of Physics, University of California, Los Angeles 24, Calif. Requests for further information concerning the meeting should be addressed to the conference secretary, Dr. William W. Kellogg, RAND Corp., 1700 Main Street, Santa Monica, Calif.

Quantum Electronics

The scope of the Third Quantum Electronics Conference, which will take place in Paris early next year, has been enlarged to include discussions of advanced devices and systems as well as of general problems in quantum electronics. The meeting will be held during the week of February 11–15, 1963, under the sponsorship of the Institute of Radio Engineers and the Société Française des Electroniciens et Radioelectriciens and with the cooperation of the Office of Naval Research. An accompanying exhibition of working experiments and advanced devices will start a few days earlier—February 8th—and will continue through February 15th.

November 1 has been set as the deadline for abstracts, which should be sent to Mme. Cauchy, Secretary, Third Quantum Electronics Conference, 7, rue de Madrid, Paris 8, France. Pierre Grivet of the Electronics and Radio Electricity Laboratory of the University of Paris is serving as president of the conference, and the program committee is headed by N. Bloembergen