

Meetings

Mexican Physical Society

Meeting in Querétaro Reported

The Mexican Physical Society, founded in 1951, held its first meeting in the city of Querétaro on April 22–26, 1952. This city of about 70,000 population, some 250 km. northwest of the city of Mexico and 1800 m. above sea level, is rich in historical associations and has numerous choice specimens of Spanish colonial architecture. It was there that Emperor Maximilian of the house of Hapsburg, younger brother of Emperor Franz Joseph of Austria-Hungary, head of the puppet empire set up in Mexico by Emperor Napoleon III of France, was executed in 1867 by the victorious army of Escobedo, thus bringing to an end the French occupation of Mexico and underlining the triumph of the Mexican Republic under President Juárez. It was also there that the constitution of 1917 was signed at the close of the people's uprising against the thirty-year-old dictatorship of Porfirio Díaz.

The meeting, sponsored by Dr. Octavio S. Mondragón, governor of the state of Querétaro, and by Lic. Fernando Díaz, president of the University of Querétaro, was held at the University and formally opened by Governor Mondragón on Tuesday, April 22. Lic. Antonio Pérez, head of the University's Law School, delivered the address of welcome. About half of the Society's 200 members were in attendance.

On Tuesday evening, Dr. Carlos Graef Fernández, President of the Society, delivered an invited popular expository lecture on "Space, Time, Gravitation", and on Wednesday evening this writer gave another invited lecture on "The Relation Between Cosmic Rays and Radio Waves Emitted by the Sun". Both were attended by capacity audiences of about 200 which filled the 17th century lecture hall to overflowing.

The first scientific gathering was held on Wednesday morning with this writer acting as chairman. Twelve theoretical papers, ranging from crystal structure to cosmic rays, quantum electrodynamics, nuclear reactions and nuclear reactors, were read, as follows: "Some Difficulties in the Method of Differences for the Determination of Crystal Structures" by Julio Garrido of UNESCO's Bibliographical Center in Mexico City; "The Spectrum of Primary Cosmic Radiation as Determined from Neutron Measurements" by this writer; "Interactions between Mesons and Nucleons" by Juan de Oyarzábal of the National Institute for Scientific Research and the Institute of Physics of University of

Mexico; "Elimination of Divergences in Field Theory" by Alejandro Medina of the National Institute for Scientific Research; "On a Class of Transforms of Interest in Nuclear Scattering" by Marcos Moshinsky of the National Institute for Scientific Research and of the Institutes of Physics and of Geophysics of the University of Mexico; "Dynamical Description of Scattering by a Potential" by Juan M. Lozano of the National Institute for Scientific Research and the Institute of Physics of the University of Mexico; "Transient Current in Many-Level Scattering" by Francisco Medina Nicolau and Marcos Moshinsky; "Effect of a Reflector on the Behavior of a Nuclear Reactor" by Francisco Medina Nicolau of the National Institute for Scientific Research; "Effect of Control Bars on the Behavior of a Nuclear Reactor" by Juan M. Lozano; "Calculation of the Thermal Utilization Factor of a Heterogeneous Nuclear Reactor" by Fernando Prieto and Juan de Oyarzábal of the National Institute for Scientific Research; "On a Definition of the Probability of Escape to Resonance in a Heterogeneous Pile and its Applications" by Marcos Moshinsky; "Theory of the Heterogeneous Pile" by Alejandro Medina. Many of these papers were most interesting, as for instance Medina's bold proposal for the elimination of divergences arising in field theory. According to him each elementary particle would determine its own measure, in the same sense as in general relativity each mass determines the curvature of its own space-time, and all divergent integrals in the ordinary sense would be replaced by convergent integrals in Stieltjes' sense. The potential of an electron, for instance, becomes finite everywhere. The theory seems to account for the Lamb-Retherford shift and is now being tested on other problems, such as that of the deuteron and the anomalous magnetic moments of nucleons.

The second scientific meeting was held on Friday morning with Dr. Graef Fernández presiding. Seven papers were read on relativity, experimental physics, and applied physics, as follows: "Center of Mass in Special Relativity" by Dr. Carlos Graef Fernández of the Institute of Physics of the University of Mexico; "Detection of Charged Particles and Neutrons with Photographic Emulsions" by Fernando Alba of the same Institute; "A New Type of Vacuum Diffusion Pump" by R. Richard Foy of the National Institute for Scientific Research; "Bisymmetrical Obstacles Deforming Locally a Lamellar Rectilinear Flow" by Enzo Levi of the Federal Department of Hydraulic Resources; "Application of Thermodynamic Diagrams to Meteorology" by Ricardo Toscano of the Institute of Geophysics of the University of Mexico; "The Motion of the Earth's Magnetic Center" by Anselmo Chargoy of the same Institute; "Tables for the Correction of Gravimetric Measurements within Mexico from Solar and Lunar Effects" by Honorato de Castro of the Mexican Petroleum Administration. An interesting paper in this group is Chargoy's, who has found out, by comparing geomagnetic data for 1835 with that for 1950, that not only the earth's magnetic center has shifted very ap-

preciably during this period of 115 years, but also the magnitude of the earth's magnetic dipole and quadrupole. The former seems to be decreasing while the latter increases.

On Wednesday and Friday afternoons round table discussions on problems affecting the improvement of physics teaching were held and a number of papers were read. The former was presided over by Professor Salvador Vázquez of the University of Querétaro, and the latter by Professor Salvador Mosqueira of the University of Mexico and Secretary of the Society. The latter made an interesting proposal to eliminate completely the expression "kilogram force" from the teaching of elementary mechanics and substitute for it the word "kilopond". The proposal was referred to a special committee on nomenclature and terminology and no action was taken, but the Society went on record as being in favor of using the absolute meter-kilogram-second system of units in elementary mechanics courses.

At the closing plenary meeting on Saturday morning the members of the Society voted to establish a new Division of Geophysics, a Division of Chemical Physics, and a special division for secondary and high school teachers of physics. About thirty new members were taken into the Society and three representatives of the Society on the Mexican committee of the International Union of Pure and Applied Physics were appointed.

President and Mrs. Díaz graciously offered a luncheon at their home for about 150 members of the Society and guests on Wednesday, and Governor and Mrs. Mondragón, together with President and Mrs. Díaz, were hosts at a dance in honor of members, their families and guests, about 200 in all, at the Casino on Saturday evening. The Society's banquet took place in Tequisquiapan, a watering resort some 70 km from Querétaro, on Thursday with about 100 people in attendance. No scientific or other meetings were scheduled on that day, so that members would have ample opportunity for informal discussions. All these social functions were deeply enjoyed and much appreciated.

Manuel Sandoval Vallarta

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High Polymer Physics

APS Division Meeting in Columbus

The Division of High-Polymer Physics of the American Physical Society held its tenth meeting March 20, 21, and 22, 1952 at the Ohio State University, in conjunction with the Columbus Meeting of the parent society.

One of the invited papers presented at the opening general session of the Society, by E. Guth on "Polymer Research as a Branch of Solid State Physics", and a later session of invited papers by R. Smoluchowski, C. G. Shull, and W. A. Weyl, dealing with the structure of matter in the solid state, served to link our divisional program with that of the Division of Solid-State Physics, also assembled at Columbus. In addition

to these, our program included five other excellent invited papers, dealing with such varied subjects as light scattering by colloidal solutions of spheres, small-angle x-ray scattering, infrared analysis of high-polymer structure, crystallization in polymers, and the viscosity of concentrated macromolecular solutions.

Most of the twenty-four shorter contributed papers dealt with studies of the viscoelastic behavior of polymers. Together they constituted a valuable summary of the present state of knowledge in this difficult but important field. A few contributions were concerned with polymer structure and the interpretation of properties of polymer solutions in terms of molecular structure, shape, and size.

The high calibre of the program was largely a result of the efforts of the Program Committee, consisting of R. Buchdahl (Chairman), G. B. B. M. Sutherland, E. Guth, and M. L. Dannis. The officers of the Division wish to thank this committee and also the Ohio State University, and its Physics Department, for providing the facilities for the meeting and otherwise contributing greatly to its success.

The next meeting of the Division is tentatively scheduled for next March, again in conjunction with the meeting of the parent society, wherever that may be.

Maurice L. Huggins

Eastman Kodak Company

AAPT Summer Meeting

At Iowa City this Month

The American Association of Physics Teachers will hold its 1952 summer meeting on the campus of the University of Iowa at Iowa City from June 11 to 14 in joint session with the 14th Annual Colloquium of College Physicists and with the Associated June Lectures held under the sponsorship of Research Corporation. The technical program of the AAPT will include a total of twenty-nine contributed papers, invited papers by V. F. Swaim of the Naval Aviation Ordnance Test Station (The Raydist System) and S. C. Brown of MIT (A Survey of General Physics Laboratories in the United States), and a session in which movies of magnetic domains will be shown by R. M. Bozorth of Bell Labs. The program of the Colloquium will include lectures by Dr. Bozorth (Researches in Magnetism), W. L. Whitson of Johns Hopkins (Operations Research), H. K. Schilling of Pennsylvania State College (Edge Tones and Whistles), and H. B. Peacock of Geophysical Service, Inc. (Recent Development in Geophysical Exploration). A demonstration experiment round table discussion is also scheduled, and there will be an exhibit of new devices for experimental and non-experimental teaching. The June Lectures will consist of four lectures by George E. Uhlenbeck of the University of Michigan, who will speak Friday afternoon on the so-called elementary particles, and on Saturday morning will discuss some famous unsolved problems in statistical physics. The AAPT Program Committee