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POLISH PHYSICISTS HOLD 12TH CONVENTION

From 29 October to 3 November 1949, the Twelfth Convention of Polish Physicists took place in Warsaw at the Zaklad Fizyczny (Physics Research Center) of the University of Warsaw. This was the third convention held in Poland since the war (the first was held in May 1947, and the second in May 1948, also in Warsaw). The main theme of the convention was the development of research on solids. In addition, there were reports on special fields of theoretical physics. Almost half of the convention's time was devoted to reports on original projects.

The following meetings took place: the Conference of Physics Professors and Lecturers of Polish Academies, the Polish Optics Commission, the National Committee of the International Union of Theoretical and Applied Physics, and the plenary meeting of the Polish Physics Society. Prof Wojciech Rubinowicz of Warsaw was elected chairman of the Polish Physics Society for the next 2 years to succeed Prof Stefan Fienkowski. Prof Stanislaw Loria of Wroclaw presided at the sessions of the convention.

The sessions of the above-mentioned committees, commissions, etc., which were restricted to participants, had a strictly organizational character. They dealt with teaching programs in higher institutions, scientific research plans, problems of management, terminology, etc. Numerous important resolutions were adopted.

The instructional part of the convention consisted of one- and 2-hour reports on basic research on the physics of solids. It also included a number of 10- and 15-minute reports on original scientific research.

The physics of solids (as well as nuclear physics) has great theoretical and practical significance, as in the physics of metals, insulators, plastics, and enamels. Fields such as ferromagnetism and superconductivity are of great interest to theoreticians working on solids.

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Because of the ever-growing use of fluorescent lighting, research on luminescence of solids used in the manufacture of these bulbs is especially important. The physics of semiconductive solids is an entirely new field which developed chiefly during the recent war and in the postwar years. It is characterized by numerous practical applications in the fields of teletechniques, radar, military signaling, measuring instruments, etc. Almost every month brings news of progress and discoveries in this field. Almost all the above-mentioned fields in the physics of solids were covered in basic reports read at the convention.

Professor Sosnowski of Warsaw gave two basic reports. In the first he reported on the present status of the quantum-mechanics theory of electrical phenomena in crystals. In the second he presented the application of the theory to semiconductive solids and discussed many of the newest projects in this field.

Two reports were read on the physics of metals. In the first, Professor Szczentowski of Poznan outlined the contemporary status of research in the field of superconductivity. In the second, Professor Weysenhoff of Krakow reported on ferromagnetism.

Professor Pienkowski of Warsaw reported on the small angle dispersion of X-rays in solids, which is a departure from the usual method of structural analysis.

In the field of insulators (dielectrics), Professor Piekara of Gdansk reported on special research on dielectric solids and the newest discoveries in this field -- ferrodielectrics (substances with a dielectric constant ranging up to the tens of thousands). Doctor Scislowski of Warsaw reported on the rupture strength of dielectric solids and the quantum-mechanics theory of this phenomenon. Professor Jablonski of Torun gave an extensive report on the photoluminescence of crystals.

Professors Rayski and Rzewuski presented two reports on theoretical physics. They dealt with the quantum-mechanics theory of the magnetic field and the calculation of perturbation according to Schwinger. Although this was not related to the main theme of the convention, the reports had current significance and were received with interest.

The number and variety of the reports testified to the progress of Polish physics. A total of 52 original works were read: Warsaw 18, Krakow 7, Torun 6, Gdansk 5, Poznan 4, Wroclaw 4, Lublin 3, Lodz 2, Jelena Gora 2, and Gliwice 1.

Besides work in theoretical and applied physics, the work of the Warsaw group also centered around the three research fields of nuclear physics, molecular and X-ray optics, and research on semiconductors. Torun was represented by theoretical physics. The work of the Krakow group was dominated by research on cosmic rays. In addition, the Krakow group completed two projects in applied physics with great practical significance. The first dealt with delineation of petroleum borings by means of the radioactive sounding method (Professors Miesowicz and Mikucki). This is very important to geological explorations. The second dealt with detecting defects in steel cables by the electromagnetic method. This is of great use in coal mines. Professor Jezewski of Krakow received the state award in 1949 for the latter project.

The projects reported from Wroclaw and Jelena Gora centered mainly on the theme of applied physics (in connection with instrument optics). They also carried on research in cosmic rays. The physicists from Gdansk and Lodz reported on progress in the building of high-tension equipment for nuclear work (accelerators) installed in the polytechnics in their cities. In addition, the

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Gdansk group carried on projects in the field of dielectrics, research on the magnetic properties of materials, and research on cosmic rays. The remaining areas reported projects on various themes: atomic physics, photoelectricity, dipole moments, and medical physics.

Of about 250 physicists taking part in the convention, 150 came from places other than Warsaw.

The Polish Physics Society has resumed publication of Acta Physica Polonica, a scientific periodical first published in 1932 (it is also published in foreign languages). This periodical reports the scientific research of Polish physicists. The Polish Physics Society has also begun publication of a biweekly scientific periodical in Polish, Postepy Fizyki (Progress in Physics). The first issue of this periodical appeared during the convention.

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