

Work in this direction is being carried out at the present time without much coordination, not sufficiently actively, and without including fundamental and allied applied areas of science.

For the successful solution of this problem, for the further development of the theory of hardening of binders, and the scientific basis for controlling processes of structure formation, the section considered it necessary to endorse the trends and results of scientific research on obtaining high-strength building materials based on gypsum and cement carried out at the Laboratory of Electrothermal Processes of the Academy of Sciences of the BSSR, at the Laboratory of Heavy and Other Concretes, and at other establishments, and recommended that a series of investigations be carried on the development of the theoretical basis for the hydration process and structure formation in gypsum rock with the aim of obtaining high-strength materials and components.

The section also adopted a number of organizational measures to coordinate investigations in the area of the control of the processes of structure formation in concrete and the hardening of binders.

E. A. Raskina

TENTH ALL-UNION SYMPOSIUM ON RHEOLOGY

The Tenth All-Union Symposium on Rheology organized by the Division of Physics of Polymers of the Ural Scientific Center of the Academy of Sciences of the USSR and the Institute of Petrochemical Synthesis of the Academy of Sciences of the USSR under the direction of the corresponding divisions of the Academy of Sciences of the USSR, and also of the D. I. Mendeleev All-Union Chemical Society, took place on June 20-24, 1978 in Perm.

It was noted that scientists and engineers had actively participated in the programme of communist construction put forward by the Twenty-Fifth Congress of the Communist Party of the USSR with regard to increasing the efficiency of production, accelerating scientific-technical progress, and introducing scientific results into the national economy. Their efforts were directed to completing the Tenth Five-Year Plan ahead of schedule. Rheology is undergoing extensive development at the moment and should make a considerable contribution to the solution of pressing practical problems.

More than 230 specialists representing the main scientific centers of the country participated in the symposium. These included 25 doctors of science and 106 candidates, who are the leading specialists in various branches of science and technology.

Thirteen lectures and papers and 148 communications were presented.

The following rheological problems were considered: the mechanics of solutions and melts of polymers and composition materials based on them, the hydrodynamics of petroleum and petroleum products and the rheological behavior of drilling solutions and other materials. The symposium also brought out the trend in the rheology of filled and unfilled polymers which combine problems of flow with problems of fracture. New experimental and theoretical investigations enabling these materials to be widely used in industry were presented.

New results have been obtained regarding the connection between molecular characteristics and the rheological behavior of different polymers.

Particular attention was given to work in the area of the extraction and transport of petroleum and also the properties of petroleum products as they apply to problems of petroleum and gas techniques, providing a scientific basis for transportation processes.

A number of new problems in the hydrodynamics of anomalous-viscous liquids as they apply to processing, mixing and heat-transfer processes, have been solved.

During the last 2 years several monographs on rheology have been published which have increased the general level of rheological research in the USSR.

Translated from *Inzhenerno-Fizicheskii Zhurnal*, Vol. 35, No. 4, pp. 748-749, October, 1978.

In accordance with modern tendencies in the development of science in the USSR, an important development is the extension of the range of action of seminars on rheology into the eastern regions. A reflection of this was the holding in 1977 in Novosibirsk of an All-Union School on Rheology and the present symposium in Perm. In view of the fact that in the Perm region there are organizations interested in rheological research on polymer systems, the symposium considered it necessary to organize a section on rheology and to hold periodic seminars under the supervision of the Mendeleev Society.

The journal "Mechanics of Polymers" plays an important role in the development of rheological research and actively publicises rheological ideas and methods.

However, as was pointed out, a number of important problems are still unsolved, particularly in the area of instrumental rheology. The output of specialist-rheologists has not been organized in the higher educational system. There is still a gap between the level of theoretical investigations and their realization in industry. The symposium therefore urged the Presidium of the Academy of Sciences of the USSR, the Ministry of Higher Education, and the State Committee on Science and Technology of the USSR to take steps to eliminate these deficiencies.

The symposium succeeded in achieving a high scientific-practical level, and all those participating expressed their thanks to the organizers on its successful completion.

Z. P. Shul'man