

CHRONICLE

INTERNATIONAL SCHOOL ON PROBLEMS OF HEAT AND MASS TRANSFER IN RHEOLOGICALLY COMPLEX MEDIA (MINSK, APRIL 16-29, 1975)

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The International School "Problems of heat and mass transfer in rheologically complex media" ran from April 16 to 29, 1975 in Minsk in accordance with the plan of work of the International Center of Academies of Sciences of the Socialist Countries for the Advancement of the Qualifications of Scientific Cadres on the Problem "Heat and Mass Exchange" at the A. V. Lykov Institute of Heat and Mass Exchange, Academy of Sciences of the Belorussian SSR in 1975-1976.

About 100 people, representing the majority of scientific rheological centers of the Soviet Union and socialist countries, took part in its work. Among them were the Central Laboratory for the Theoretical Bases of Chemical Technology (CLATBCT) and the Central Laboratory of Polymers of the Bulgarian Academy of Sciences, the Higher Chemical Processing Institute [Sofia, People's Republic of Bulgaria (PRB)], the Scientific-Research Institute of Technical Chemistry of the Hungarian Academy of Sciences, the Central Institute of Mathematics and Mechanics and the Central Institute of Physical Chemistry of the Academy of Sciences of the German Democratic Republic (GDR), the C. Schorlemmer Higher Technical School on Chemistry (Merseburg, GDR), the Institutes of Engineering Chemistry of the Warsaw and Krakow Higher Polytechnic Schools, and the Polytechnic Institute [Lódź, Polish People's Republic (PPR)], as well as the Institute of Petrochemical Synthesis, Problems of Mechanics, and High Temperatures, Academy of Sciences of the USSR, the Institute of Heat Physics, Siberian Branch of the Academy of Sciences of the USSR, the M. V. Lomonosov Moscow State University, the Lensovet Leningrad Technological Institute, the A. V. Lykov Institute of Heat and Mass Exchange, and the Institute of the Mechanics of Metalopolymer Systems, Academy of Sciences of the Belorussian SSR, and a whole series of academic, branch, and educational institutes of Azerbaidzhan, Belorussia, Latvia, Lithuania, Moldavia, the RSFSR, and the Ukraine.

The School took place within the framework of the rheological semester held by the Center from February 24 to May 24, 1975.

The program of the School included reports on recent results of original research, survey reports and lectures on the most urgent main problems, and thematic seminars at which reports of students of the School were heard.

The publication of preprints of the lectures and reports which were given to the participants of the School proved to be a great help in the work of the lecturers and students. This made it possible for the students to become preliminarily acquainted with the material and for the lecturers to devote greater attention to the most complex and important, from their point of view, aspects of a problem.

The lecture part was designed for 57 academic hours. Three seminars were held, of which two were thematic ["Methods of measurements in rheologically complex streams" and "The Toms problem (the effect of small polymer additions on transfer processes in liquids)"] and one was devoted to original reports of students.

After the ceremonial opening of the International School and the introductory words of Corresponding Member of the Academy of Sciences of the Belorussian SSR A. G. Shashkov, President of the Scientific Council of the Center and an institute department director of the A. V. Lykov Institute of Heat and Mass Exchange, Academy of Sciences of the Belorussian SSR, the address of the Director of the Institute of Heat Physics, Siberian Branch of the Academy of Sciences of the USSR, Corresponding Member of the Academy of Sciences of the USSR S. S. Kutateladze was given on "Fundamental problems of heat physics and thermal power engineering."

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In a structural-thematic respect the program of the School was constructed on the following principle: systems with high-polymer additions - polymer systems and their properties-disperse systems - rheologically complex media and chemical technology.

The first cycle was opened by the lectures of Prof. E. M. Khabakhpasheva, in which she presented the results of an experimental study of the characteristics of boundary turbulence and heat exchange in the flow of water containing small polymer additions.

A considerable portion of the lecture hours was assigned to a cycle devoted to the presentation of the results of the study of polymer systems and their properties.

The relaxation transition of linear polymers from a fluid to a highly elastic and glassy state under the effect of deformation at temperatures above T_{g1} was analyzed and the nature and properties of the appearance of the anomalous viscosity effect during the flow of polymer solutions of different concentrations in connection with the properties of their relaxation state were discussed in the lectures of Profs. G. V. Vinogradov, A. Ya. Malkin, and V. E. Gul'. Special attention was paid to the theory of the strength of polymer materials. Data were presented on experiments, using optical methods, on the destruction of polymethyl methacrylate, polyethylene terephthalate, and polypropylene for different temperatures and rheological parameters.

The lectures of Profs. V. G. Litvinov and V. P. Myasnikov were devoted to mathematical methods in the study of the movement of non-Newtonian liquids.

Professor Yu. A. Buevich (USSR) and Assist. Prof. S. Vronski (PPR) paid much attention to concentrated suspensions.

The lectures of Corresponding Member of the Academy of Sciences of the Belorussian SSR I. I. Lishtvan and Assist. Prof. Z. Kemblovskii (PPR) on the rheology of disperse systems were heard with great interest.

Lectures were read by Profs. E.-O. Reger (GDR) and N. V. Tyabinyi on the application of rheologically complex media in chemical technology.

The lectures of Prof. Z. P. Shul'man "On the rheophysical research of the A. V. Lykov Institute of Heat and Mass Exchange, Academy of Sciences of the Belorussian SSR," and "Electro- and magnetorheological effects and their practical application," of Prof. A. I. Leonov "Nonequilibrium thermodynamics and rheology of viscoelastic polymeric media," of Prof. A. Kh. Kim "Rheology of viscoplastic systems," of Assist. Prof. G. A. Peev (PRB) "Some aspects of the movement of liquids under the effect of a periodic pressure drop," of Candidate of Technical Sciences V. N. Kalashnikov "Hydrodynamic effects of the changes in the physicomachanical structure of a liquid upon the solution of small amounts of high polymers," and others evoked great interest in the listeners.

The scientific program of the School was full, interesting, and distinguished by the novelty of the material presented.