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Academician V. V. Voevodskii (1917–1967) was one of the most talented representatives of the Soviet Scientific school, who founded chemical physics as the science of the physics and chemistry of elementary chemical reactions.

Voevodskii carried out a large number of fundamental studies in the field of the kinetics of gas-phase chemical reactions, particularly free-radical reactions. The initiation of research into the kinetics of free-radical reactions in condensed media and on the surfaces of solids is associated with his name. Voevodskii was one of the first scientists in our country to understand and assess the possibilities made available to chemists by the investigation of free radicals using the technique of the electron paramagnetic resonance. He influenced the formulation of what is in essence a new field of research—chemical micro-wave spectroscopy. An important feature of the research carried out by Voevodskii and his scientific school is quantitative study of the relation between the structure and reactivity of active intermediates in gaseous, liquid, and solid phases.

The All-Union Conference on "The Physics and Chemistry of Elementary Chemical Processes", times to coincide with Voevodskii's 60th birthday, was held in Moscow in June, 1977. Some of the reports at this conference served as the basis of the reviews published in the present issue. They were written by Voevodskii's students and colleagues and demonstrate the successful and fruitful development of his scientific school. The present issue also includes articles by members of the Institute of Chemical Physics of the USSR Academy of Sciences, actively involved in the fields of chemical kinetics close to those investigated by Voevodskii's scientific school.