**PROCEEDINGS OF THE XI ALL-RUSSIA
SYMPOSIUM “MODERN PROBLEMS
OF THE THEORY OF ADSORPTION,
POROSITY, AND ADSORPTION SELECTIVITY”
(MOSCOW–KLYAZMA, APRIL 16–20, 2007)**

Editorial Preface

DOI: 10.1134/S0033173208020069

This issue of the journal presents the proceedings of the XI All-Russia symposium “Modern problems of the theory of adsorption, porosity, and adsorption selectivity” held April 16–20, 2007.

The symposium was devoted to discussion of problems in the theory of adsorption at adsorbents differing in porosity and chemical state of the surface. Particular attention was given to processes in micropores and nanostructures and the theory of their synthesis and self-regulation. The subjects of investigations included analysis of the porous structures of adsorbents and the state of the adsorbate, its molecular diffusion in pores and at the surface, the kinetics and dynamics of adsorption under various conditions, noninert behavior of adsorbents, and the calculation of adsorption processes and the thermodynamic characteristics of adsorption.

At the symposium, hydrogen power engineering was recognized as a priority problem. The prospects of using adsorption processes for preparation of high-purity hydrogen, its accumulation in novel nanoporous sorbents, and problems of its transportation in the adsorbed state were considered.

A great contribution to the setting, development, and solution of these problems was made by Professor

Nikolai Sergeevich Polyakov, who headed the Scientific Council of the Russian Academy of Sciences on adsorption and chromatography from 1987 to 2005. Polyakov was the leading Russian scientist in the field of fundamental laws describing the adsorption of gases and vapors and the synthesis of carbon sorbents and was one of the developers of micropore volume filling theory. Polyakov is known for his studies of the porous structures of adsorbents and their molecular sieve properties. He performed a large body of investigations concerned with the dynamics of vapor adsorption at thin layers of adsorbents over a wide range of breaking concentrations and coadsorption of organic compounds and water from the vapor phase. Polyakov derived an equation for calculation of the time required for toxic industrial compounds to appear in breaking concentrations behind the sorbent layer under different adsorption conditions.

The present selected papers are devoted to his memory.

*Organizing Committee of the Conference
Editorial Board of the Journal*