Special Issue

Modeling of the Catalytic Cracking

Message from the Guest Editors

Significant efforts of the scientific community are focused on the development and optimization of processes and catalysts for the processing of heavy petroleum fractions, including catalytic cracking, which provides the production of about a quarter of the world's gasoline stock. An urgent task in the catalytic cracking technology is to increase the yield of gasoline fraction with high octane characteristics and olefin-containing gas. This problem is especially urgent for units integrated with petrochemical plants.

To solve this problem, an integrated approach is required using mathematical models based on considering the thermodynamic, kinetic, and hydrodynamic regularities of the catalytic cracking of high molecular weight hydrocarbons, as well as the regularities of catalyst activity change under conditions of changing feedstock composition.

This Special Issue is devoted to modeling of the catalytic cracking. Reviews and original research papers are invited from experimental methods for studying the process and cracking catalysts, including topics from catalyst deactivation to simulations of industrial plants.

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