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Study and processing of oil sands

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Huge deposits of oil sands (OS) of Republic of Kazakhstan which are characterized by content of organic part that ranges from 9 to 95% according to type and depth of each deposit are a prime candidate as an alternative source of hydrocarbons. It is notable that we can obtain organic products with various physical and chemical properties depending on the method of processing of OS. In connection with the above, in the Laboratory of Oxidation Processes of Hydrocarbon raw of Institute of Combustion Problems (ICP) the development of following main directions of processing of OS in order to produce commercial oil products is carried. Extraction of organic part of OS of Kazakhstan deposits using different organic solvents with subsequent oxidizing it to bitumen that is used for road construction. Thermal processing of OS of Kazakhstan deposits with obtaining of synthetic oils as well as hydrophobic mineral part. Ultrasonic method for separation of organic and mineral parts of OS, solutions of alkaline metals serve as surfactants. Along with development of methods of OS processing a great attention is paid to improve the physic & chemical characteristics of road bitumen by creation of its composite with rubber crumb, as well as a problem of recycling of rubber pollutants and wastes is solved. An important aspect of ICP research is ecology of oil and gas industry. It is carried research in area of bio-remediation of oil-contaminated soils using bacteria.

Biography

Mansurov Z A is a General Director of the Institute of Combustion Problems of the Ministry of Education and Science of the Republic of Kazakhstan. His scientific activity includes study and investigations of kinetics and mechanisms of hydrocarbon combustion and structure of cool soothing flames. In 2002, group of scientists headed by him had received Diploma for discovery of phenomenon of low-temperature cool-flame soot formation awarded by Russian Academy of Natural Sciences. Her professional career includes longstanding activity in INTAS. He is Editor-in-Chief of *Combustion* and *Plasmochemistry and Eurasian Chemico-Technological* Journals indexed at Scopus.

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