

4th International Conference on

Petroleum Engineering

August 15-17, 2016 London, UK

**Mansurov Z A***Institute of Combustion Problems—Ministry of Education and Science, Kazakhstan*

Aquatic oil spill elimination by burning

Emergency oil spills during transportation of them by water way, from offshore oil drilling rigs and other sources can rapidly result in harm to the ecosystem and leads to negative and social impact. The development of effective methods on oil spill elimination is a task of singular importance. Burning can be used where other methods are not effective spill response, and can be done in parallel with other methods of spill after determining an appropriate method for a particular site or geographic region. The paper provides an overview of the current state of the problem, and research results on combustion of Karazhanbas and Tengiz oil on water surface were carried out. It has been established that minimum thickness of oil blanket, allowing to initiate and support combustion process, lie in the range of 3-5 mm. For ignition and maintenance of stable combustion of oil on water surface, the synthetic sorbent was suggested. It is found that, the synthetic sorbent accelerates the combustion process of oil on water surface threefold in comparison with combustion process of oil without sorbent. It is shown that the remaining mass of oil on water surface after combustion process termination, presents the bitumen substance, having a good adherence and strong adhesion that allows taking it with high efficiency by mechanical method.

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 sooting 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 Plasmachemistry* and *Eurasian Chemical-Technological Journals* indexed at Scopus.

zmansurov@kaznu.kz