

# DEVELOPMENT OF THE NUMERICAL SIMULATION TOOLS FOR THE HYDROCARBON RECOVERY MODELING

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In order to make reasonable decisions on the hydrocarbon field operations numerical simulations are widely applied. Numerical modeling is carried out with the help of specialized software – simulators. In this paper the brief review of modern simulators is presented, the crucial limitations encountered in practical case studies on enhanced oil recovery modeling by means of the most popular simulators are characterized. Current advantageous trends in the development of simulators are formulated.

This paper also presents the results of creating a simulator prototype developed by the Geothermal Laboratory of the Department of Physics of the Earth at the Faculty of Physics of the Lomonosov Moscow State University. The developed prototype software is designed to numerically simulate non-isothermal multiphase flows into deposits [1, 2]. Plans of possible further development or the created prototype are also presented in this paper. The main goal of this further development is the designing of a proper tool which would allow one to solve the actual tasks of in-situ processes modeling occurring in hydrocarbon deposits during the implementation of new enhanced oil recovery technologies.

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## Bibliography

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