Special Issue

Analysis and Simulation of Multiphase Flow in Porous Media

Message from the Guest Editor

Flow in porous media is an important topic in many industrial applications. In particular, in the petroleum industry, the efficient recovery of oil from reservoirs requires a deep understanding of multiphase flow. An oil reservoir is a basin that can contain oil, water and other chemical species, each present in one or more physical phases. The presence of some of these constituents can also be a consequence of the techniques used to extract the oil from the reservoir. The problem can be approached from a theoretical point of view, but modeling of such systems is prohibitive for its complexity, so it is frequently useful to resort to other approaches. Nevertheless, many theoretical simplified models have been proposed, and they can be useful in many situations. The numerical approach can provide important information and can be very useful in concrete applications. A further improvement can be provided by simulations of multiphase flow systems. The present volume would like to gather some of the more recent advances in multiphase flow of porous media, to provide the reader for a fresh overview of the topic.

Guest Editor

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