A Systematic Approach for Modeling of Waterflooding Process in the Presence of Geological Uncertainties in Oil Reservoirs

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Highlights

- A system theory-based modeling approach for waterflooding process in oil reservoirs is proposed.
- Impact of geological uncertainties on hydrocarbon recovery efficiency is modeled and quantified.
- System identification, Monte-Carlo Simulations and pattern recognition have been used in the algorithm.
- Reservoir management goals can be pursued in the presence of uncertainty, based on the obtained model.
- Developed approach has been evaluated in MRST environment on 10^{th} SPE-model#2.