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Real-time Management of the Waterflooding Process Using Proxy Reservoir Modeling and Data Fusion Theory

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Highlights

- An adaptive algorithm is introduced for waterflooding management in oil reservoirs using proxy models.
- Time-varying nature and the inherent nonlinearity of the complex process is successfully handled.
- Variations in market prices or operational costs are compensated such that a desired feasible profit is ensured.
- Using data fusion technique, the real-time profitability/productivity status of the reservoir is monitored.
- Fairly profit-sharing in different field development contracts can be achieved by applying the proposed method.

Abstract