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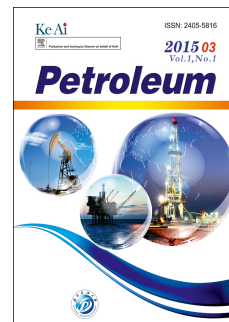
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# Study on Characteristics of Well-test Type Curves for Composite Reservoir with Sealing Faults

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## Abstract

The pressure response for the composite reservoirs with a sealing fault locating in inner and outer region is different, which neglected by previous researchers, would cause significant errors during well-test interpretations. Based on seepage theory, a well-test model of two-region radial composite reservoir with infinite outer boundary has been built in this study considering wellbore storage and skin effects. The solutions for this model and characteristics of the type curves have been analyzed by applying the method of mirror image, Laplace transformation and superposition principle, including a straight fault, a perpendicular fault and parallel faults cases. The study shows that the dimensionless pressure derivative curves would be obviously different in two cases: the well to fault distance is larger, and smaller than the half length of the inner-region radius. Therefore, type curves are presented with reasonable parameters to analyze the distance effect on the dynamic pressure response. The results in this study are of great significance for guiding the oil and gas composite reservoirs' production and optimizing the hydrocarbon recovery.

## Keywords

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