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Study of correlation of oil flow properties with nuclear magnetic resonance and self-diffusion characteristics

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Abstract

© Copyright 2016. Correlation curves of viscosity, average spin-spin relaxation time, and average self-diffusion for crude oil samples from Tatarstan oil fields have been obtained. Two different averaging models were used to calculate mean values. It has been found that self-diffusion D and average spin-spin relaxation time R_2 are best correlated in case reciprocal values $1/R$ and $1/D$ are averaged.

Keywords

Nuclear magnetic resonance (NMR), Oil, Relaxation time, Self-diffusion, Viscosity