

Research on Molecular Diffusion Coefficient of Gas-Oil System

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Abstract

During the process of gas injection flooding, when the gas comes into contact with oil, the mass-transfer phenomenon occurs. This changes the properties of the crude oil, improves the flow capacity, and thus enhances the oil recovery. Molecular diffusion coefficient is an important parameter to describe the mass-transfer rate of gas-oil system. At present, molecular diffusion coefficient is usually tested via indirect methods. There are 2 key points that should be noticed when testing this parameter. Firstly, select proper experimental methods. Secondly, use accurate model to describe the experimental data. In this research, the authors describe the researches on the experiment methods for determining diffusion coefficient for gas-oil system, the experiments and models on pressure decay, and the influencing factors that determine diffusion coefficient.

Keywords

Oil, Mass Transfer, Molecule Diffusion Coefficient
