

عنوان مقاله:

An Experimental Investigation and Prediction of Asphaltene Deposition during Laminar Flow in the Pipes Using a Heat Transfer Approach

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نویسندگان:

Farhad Salimi - Assistant Professor, Department of Chemical Engineering, Faculty of Engineering, Kermanshah Branch, Islamic Azad University, Kermanshah, Iran

Mohsen Vafaie Seftie - Professor, School of Chemical and Petroleum Engineering, Sharif University of Technology, Tehran, Iran

Mohsen Vafaie Seftie - Professor, Chemical Engineering Department, Tarbiat Modares University, Tehran, Iran

خلاصه مقاله:

In this study, asphaltene deposition from crude oil has experimentally and theoretically been studied using a test loop and an accurate temperature monitoring during a laminar flow. The effects of oil velocity and surface temperature on the thickness of asphaltene deposition were investigated. The results show that asphaltene deposition thickness increases by increasing surface temperature. As the oil velocity increased, less deposition was noticed in this experimental study. The thermal approach was used to describe the mechanisms involved in this process, and the results of data fitting showed that there was good agreement between the results of the proposed model and the measured asphaltene deposition rates. Moreover, the theoretical study of deposition process showed that the rate of asphaltene deposition was inversely related to velocity, which was proved by the experimental results.

کلمات کلیدی:

Asphaltene, Theoretical Model, Deposition Rates, Test Loop, Laminar Flow

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