عنوان مقاله:

An Investigation about of Asphaltene Adsorption Extracted from Brazilian Southern Oil Fields onto Different Minerals Surfaces-Comparative Study of Linearized and Non-Linearized

محل انتشار:

اولین کنفرانس بین المللی نفت، گاز، پتروشیمی و نیروگاهی (سال: 1391)

تعداد صفحات اصل مقاله: 13

نویسنده:

Majid Mohammadi - *Department of Petroleum Engineering, Amirkabir University (Tehran polytechnic), Tehran, Iran*

خلاصه مقاله:

In this paper, the Langmuir isotherm, originally derived for the adsorption of asphalteneextracted from shale oil and dissolved in toluene on Kaolin, Smectite, Fluorite and Hematite, was modified to fit the adsorption isotherm. The modified Langmuir isotherm parameters obtained from the four linear equations using thelinear method differed. The aim of the proposed modification is based on the fact that direct application of the Langmuir isotherm often leadsto poor data fitting. In the present communication, it is shown that the level of data fitting to the Langmuir isotherm can beimproved by a simple modification throughintroducing a concentration dependent factor, X. The present paper discusses four modified Langmuir linearized isotherm models and onenon-linear isotherm model: their coefficients are estimated and, for the study of non-linear isotherm model, genetic algorithm is used. Agenetic algorithm procedure was utilized to optimize the modified Langmuir constants for a more accurate estimation of the set of modelparameters. The obtained results demonstrated that the best fit was obtained using genetic algorithm. Furthermore, it was found out thatfrom the surface minerals mentioned, Hematite mineral follows a multilayer adsorption isotherm.

کلمات کلیدی:

Asphaltene Adsorption; Reservoir Rock Mineral; MultilayerAdsorption; Modification of Langmuir Isotherm

لینک ثابت مقاله در پایگاه سیویلیکا:

https://civilica.com/doc/158671