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THERMODYNAMICS AND CHEMICAL.....

油藏流体中H型水合物生成条件的计算

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摘要 In this work, a thermodynamic model is developed for prediction of structure H hydrate formation. The model combines the Peng-Robinson equation of state for the vapor, liquid and aqueous phases with the extended Ng-Robinson hydrate model for gas hydrate formation of all three structures. The parameters of 14 structure-H hydrate formers are determined based on the experimental data of structure-H hydrates in the literature. The expression of fugacity of water in the empty hydrate phase is correlated for calculating structure-H hydrate formation conditions in the absence of free water. The model is tested by predicting hydrate formation conditions of a number of structure-H hydrate forming systems which are in good agreement with the experimental data. The proposed model is also applied to the prediction of hydrate formation conditions for various reservoir fluids such as natural gas and gas condensate.

关键词 油藏流体 Ⅱ型水合物 生成条件 热力学 动态模型

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Prediction of Structure-H Gas Hydrate Formation Conditions for Reservoir Fluids

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Key words structure-H hydrate; model; formation conditions; reservoir fluids

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