عنوان مقاله:

Optimization of Factors Affecting Oil Recovery During Water Flooding by DE Algorithm

محل انتشار:

دومین کنفرانس دوسالانه بین المللی نفت، گاز و پتروشیمی (سال: 1397)

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خلاصه مقاله:

In the recent years, the application of nanotechnology for the upstream petroleum has got enormous research attention. The goal of this paper is to focus on the effect of injection rate of water, nanofluid concentration, and particle size of nanopartciles on oil recovery factor during nanofluid injection into oil reservoir. A mathematical model and numerical simulation are presented to describe the imbibition of nanoparticles–water suspension into two-phase flow in a porous medium. Also, parameters such as injection flow rate, nanofluid concentration, and average particle size of nanoparticles are optimized via differential evolution (DE) algorithm as an effective and robust optimization method to maximize oil recovery factor as the objective function.

کلمات کلیدی:

water flooding, nanofluid, oil recovery , DE algorithm

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