

عنوان مقاله:

FDEM MODELLING OF HYDRAULIC FRACTURING IN HDR

محل انتشار:

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خلاصه مقاله:

Hydraulic fracturing has been widely used in tight reservoirs to generate fractures to improve conductivity and productivity. However, presence of discontinuities such as joints, faults, bedding, and cementations, the complex interaction between the HF's and these geological features influences the efficiency of an injection treatment. Considering the mechanical differences between natural fractures (NFs) and rock matrix, the type of interaction varies and demands a detailed study to explore such behaviour, specifically for the filled joints. In this study, the combined finite-discrete element method (FDEM) is used to investigate the influence of the pre-existing joints and their filling material on hydraulic fracture (HF) propagation. The coupled hydromechanical model is used to allow for the fluid flow through the rock mass. Models with some filled joints are built and HF propagation is modelled to investigate the interaction type. The results reveal strong influence of the fillings on the HF interaction and propagation

کلمات کلیدی:

FDEM, Hydraulic fracture, Filled joints, Interaction

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