

## عنوان مقاله:

Development of a Robust Intelligent Model to Determine Fracture Conductivity Based on Formation Lithology

## محل انتشار:

کنفرانس بین المللی علوم و مهندسی (سال: 1394)

تعداد صفحات اصل مقاله: 11

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## خلاصه مقاله:

Acid fracturing is one of the widely used techniques for stimulating well production. It is an alternative to proppant fracturing for limestone or dolomite formations. The success of acid fracturing is dependent on both the creation of effective fracture conductivity and fracture penetration. Although there has been a significant amount of studies on the acid fracturing process, most of these have concentrated on the acid penetration distance with only a few dealing with fracture conductivity. Accurate determination of this parameter is critical for an adequate design of fracturing jobs and project investment prospects. Due to the stochastic process inherent in acid fracturing, attempts at modelling have been met with challenges, particularly in predicting conductivity. In this study, an intelligent model was developed to predict acid fracture conductivity. Acid dissolving power and injection rate as the treatment parameters and rock embedment strength as the formation parameter are considered at different closure stresses, and ultimately, fracture conductivity was anticipated using the suggested model. The results showed an excellent match with the experimental data compared to common industrial models. Formation lithology played a substantial role in acid fracture conductivity and lumped models were not adequate to predict fracture conductivity.

## کلمات کلیدی:

Well stimulation; Acid fracturing; Acid fracture conductivity; Intelligent modeling; Fracture conductivity correlations

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/424573>

