

Microseismic Characterisation of Discrete Fracture Networks in North American Shale Plays

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Abstract

The response of different North American shale plays will be discussed to hydraulic fracturing as imaged through detailed analysis of the microseismicity. The microseismicity will be linked to the dynamic response of the discrete fracture network through moment tensor inversion, using multiple arrays of geophones deployed downhole and through hybrid array analysis using different bandwidths of instrumentation downhole and on the surface to capture and accurately characterize different fracture length scales to understand the scaling behaviour of the microseismicity.