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**Combining Mapped Microseismic Activity and Fracture Modeling to Estimate the Propped Dimensions of Hydraulic Fractures**

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**Abstract**

Monitoring and interpretation of the acoustic emissions that take place during hydraulic fracturing treatments have evolved considerably since their introduction as commercial services and continue to be applied worldwide. Mapped microseismic activity, monitored with respect to a hydraulic fracturing treatment, provides the geoscientists and engineers who are concerned with the stimulation and play assessment with a measurement of the hydraulic dimensions of the fracture. Detailed analysis of the microseismic data reveals that hydraulically induced fracture systems in both vertical and horizontal wells are influenced by a variety of factors related to the completion design as well as geology, petrophysics, and heterogeneities of the various reservoir properties. Microseismic monitoring is therefore extremely valuable in providing insights that are useful to a number of technical disciplines involved in the exploration and development of oil and gas reservoirs.