

# Induced Seismicity and Casing Deformation Caused by Hydraulic Fracturing: A Case Study in Sichuan Basin, Southwest China



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Multi-stage hydraulic fracturing is the key technique for the successful stimulation of hydrocarbons from low permeability shale formations. However, concerns have been raised in public because of the impacts of hydraulic fracturing on the environment, while induced seismicity due to fluid injection is one of the major concerns. This talk will present some induced seismicity studies based on the engineering background of Longmaxi shale gas development in Sichuan Basin, Southwest China, including friction experiments of simulated reservoir fault gouge, analysis of field microseismicity of fault activation, multi-scale modeling of casing deformation, and geomechanical modeling of fault stability under fluid injection.



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