



Modeling of the stressed-strained state of a fault zone in injection/pumping of a fluid

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In this paper we simulated the process of stressed-strained state, which occurs as a result of injection/pumping fluid into the geomedium. The modulated geomedium consists of two 3D dimensions blocks connected by a narrow fault zone. The simulation is based on the theory of a fluid-saturated poroelastic medium. Physical parameters of the fault zone are described (taking into account acceptable assumptions) by modern nonlinear models for poroelastic media, which leads to a higher permeability of the considered region. The numerical calculations were performed using software libraries with the Freefem++ open code.

Keywords

simulation, oil and gas fields, software implementation,
stressed-strained, geomedium, geomechanics

References



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