DPS
DUTCH PETROPHYSICAL SOCIETY

DPS presents: Rock Physics

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The acoustic signature of deformation in the lab

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Typically, the strain response of the rock and the associated velocity changes is measured in pore depletion experiments. The velocity is determined by analyzing the first arrival of a transmitted ultrasonic wave. The relation between velocity changes and strain is generally well explored and understood. We propose a method for the monitoring of the deformation using the diffuse field, that is to say, focusing on the coda wave of the transmitted ultrasonic wave. Cross correlation analysis of the coda part returns higher order of information associated with inelastic changed in the medium. The applications are diverse and range from civil engineering, to seismology and reservoir monitoring.

Rock Physics Integration: from Petrophysics to Simulation

M. Reza Saberi, PhD, Product Development Manager, CGG

The science of rock physics creates a bridge between elastic properties (e.g. Vs/Vp, seismic, elastic moduli etc.) and reservoir (e.g. porosity, saturation, pressure etc.) and architecture (e.g. laminations, fractures etc.) properties. It also should allow for a reliable prediction and perturbation of seismic response with changes in reservoir conditions. An appropriate rock physics model should be consistent with the available well and core data, and surface and borehole seismic as well as production and reservoir engineering figures. This requires that rock physics act as an integrating tool between different disciplines. This talk review rock physics applications in different subsurface disciplines like Petrophysics, Geophysics, Geomechanics and Reservoir engineering.

Free entrance, please RSVP by e-mail: info@dps-nl.org