

Comparison of P- and S-waves velocities estimated from Biot-Gassmann and Kuster-Toksöz models with results obtained from acoustic wavetrains interpretation

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Abstract

Kuster-Toksöz and Biot-Gassmann models for estimating velocities of longitudinal and shear waves on the basis of well-logging data were analysed. *P*-wave and *S*-wave velocity models are crucial for interpretation of seismic data. Discussed models enable determination with quite good accuracy, in some cases higher than the acoustic full wavetrains interpretation. Because velocity strongly depends on lithology and saturation of pore space, the selection of parameters of rock matrix, hydrocarbons and formation waters has a strong effect on the quality of velocities estimation.

Key words: compressional waves, shear waves, acoustic wavetrains, well logging.