# AVO AND POISSON'S RATIO: AN APPLICATION TO SEISMIC DATA PROCESSING

MICHEL DENIS

Teknosif Sdn. Bhd.
5th Floor, Menara SMI
No. 6, Lorong P. Ramlee
50250 Kuala Lumpur

The theory of elasticity governs the scattering of the energy of an incident wave at an interface; the energy repartition of the different scattered waves has been first studied by **Zoeppitz**. His well known equations governs the repartition of seismic amplitude of the reflected and transmitted waves. A simplification of these equations has been achieved by **Shuey**. His reflection coefficient equation is a simple equation, using the incidence, the normal incidence reflection coefficient, and the Poisson's Ratio. The Poisson's Ratio Variation, is directly linked with the fluid saturation conditions, upper and below the interface, which represents an important information to the geophysicists. The **Amplitude Versus Offset** (AVO) is a process by which, the assumption that the seismic amplitude is proportional to the reflection coefficient, is used to deduct two seismic rock properties i.e. the Poisson's Ratio Variation, and normal incidence reflection coefficient.



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