World Academy of Science, Engineering and Technology
International Journal of Mechanical and Industrial Engineering
Vol:12, No:09, 2018

Analysis of Reflection of Elastic Waves in Three Dimensional Model Comprised with Viscoelastic Anisotropic Medium

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Abstract : A unified approach to study the reflection of a plane wave in three-dimensional model comprised of the triclinic viscoelastic medium. The phase velocities of reflected qP, qSV and qSH wave have been calculated for the concerned medium by using the eigenvalue approach. The generalized method has been implemented to compute the complex form of amplitude ratios. Further, we discussed the nature of reflection coefficients of qP, qSV and qSH wave. The viscoelastic parameter, polar angle and azimuthal angle are found to be strongly influenced by amplitude ratios. The research article is particularly focused to study the effect of viscoelasticity associated with highly anisotropic media which exhibits the notable information about the reflection coefficients of qP, qSV, and qSH wave. The outcomes may further useful to the better exploration of all types of hydrocarbon reservoir and advancement in the field of reflection seismology.

Keywords : amplitude ratios, three dimensional, triclinic, viscoelastic
Conference Title : ICTAM 2018 : International Conference on Theoretical and Applied Mechanics
Conference Location : Rome, Italy
Conference Dates : September 17-18, 2018