



Study of Energy flue in Viscoelastic anisotropic media

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Abstract : The problem considered in this paper deals with the properties of the energy flue vector and other related energy quantities of homogenous and inhomogeneous time-harmonic P and S plane waves, propagating in unbounded viscoelastic anisotropic media, both analytically and numerically, we propose an approach for the simplification of the energy-flux vector, which can be used for media of unrestricted anisotropy and viscoelasticity, and for arbitrary homogeneous or inhomogeneous plane waves. There are simple analytic solutions for SH waves propagating in symmetry planes. Also we will present the numerical examples for P, SV and SH waves.



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Key words: energy flux, attenuation vector, inhomogeneous plane waves, viscoelastic media, energy-velocity vector propagation vector,

Introduction

In this paper, a study entitled “energy flux in viscoelastic anisotropic media” is presented. The properties of the energy-flux vector and other related energy quantities of homogeneous and inhomogeneous time-harmonic P and S plane waves, propagation in unbounded viscoelastic anisotropic media are studied, analytically. An algorithm for computation of the energy-flux vector, which can be used for media of unrestricted anisotropy and viscoelasticity and for arbitrary homogeneous or inhomogeneous plane waves is used. The method of determination of the complex valued slowness vector, satisfying the equation of motion, plays an important role in the algorithm for this media. Here we use the method proposed by Cerveny (2004) and Cerveny and Psencik (2005a) based on the so called mixed specification, the slowness vector is expressed in terms of a complex valued constant

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