

On Rayleigh waves in incompressible orthotropic elastic solids

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Abstract: In this paper the secular equation for the Rayleigh wave speed in an incompressible orthotropic elastic solid is obtained in a form that does not admit spurious solutions. It is then shown that inequalities on the material constants that ensure positive definiteness of the strain-energy function guarantee existence and uniqueness of the Rayleigh wave speed. Finally, an explicit formula for the Rayleigh wave speed is obtained. © 2004 Acoustical Society of America.

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