

# Formulas for the Rayleigh wave speed in orthotropic elastic solids

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**Abstract:** Formulas for the speed of Rayleigh waves in orthotropic compressible elastic materials are obtained in explicit form by using the theory of cubic equations. Different formulas are obtained by using different forms of the (cubic) secular equation. Each formula is expressed as a continuous function of three dimensionless material parameters, which are the ratios of certain elastic constants. It is interesting to note that one of the formulas includes as a special case the formula obtained recently by Malischewsky for isotropic materials.

**Author Keywords:** Orthotropy; Rayleigh waves; Wave speed

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