

عنوان مقاله:

Wave Propagation in Fibre-Reinforced Transversely Isotropic Thermoelastic Media with Initial Stress at the Boundary Surface

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خلاصه مقاله:

The reflection and transmission of thermoelastic plane waves at an imperfect boundary of two dissimilar fibre-reinforced transversely isotropic thermoelastic solid half-spaces under hydrostatic initial stress has been investigated. The appropriate boundary conditions are applied at the interface to obtain the reflection and transmission coefficients of various reflected and transmitted waves with incidence of quasi-longitudinal (qP), quasi-thermal (qT) & quasi-transverse (qSV) waves respectively at an imperfect boundary and deduced for normal stiffness, transverse stiffness, thermal contact conductance and welded boundaries. The reflection and transmission coefficients are functions of frequency, initial stress and angle of incidence. Their amplitude ratios are computed numerically and depicted graphically for a specific model to show the effect of initial stress. Some special cases are also deduced from the present investigation.

کلمات کلیدی:

Fibre-reinforced, Hydrostatic initial stress, Reflection, Transmission, Thermoelasticity

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