

Fractional wave equation with discontinuous coefficients

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We consider wave propagation in viscoelastic media having non-constant density $\rho = \rho(x)$, obeying Zener constitutive law giving relation between stress and strain and with non-constant Young modulus of elasticity $E = E(x)$. If for ρ and E we allow also discontinuities, for example jumps modeling media consisting of two or more different materials, it would imply partial integro-differential equations with distributional coefficients. Existence of very weak solution for such equation is going to be proved.

Work is done in collaboration with Michael Ruzhansky.