

A note on the wave equation for a class of constitutive relations for nonlinear elastic bodies that are not Green elastic

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Resumen

A class of constitutive relations for elastic bodies has been proposed recently, where the linearized strain tensor is expressed as a nonlinear function of the stress tensor. Considering this new type of constitutive equation, the initial boundary value problem for such elastic bodies has been expressed only in terms of the stress tensor. In this communication, this new type of nonlinear wave equation is studied for the case of a one-dimensional straight bar. Conditions for the existence of the travelling wave solutions are given and some self-similar solutions are obtained.

Palabras clave

Palabras clave de autor: [Strain limiting behaviour](#); [implicit constitutive relations](#); [travelling wave solution](#); [self-similar solutions](#); [elastic rod](#)

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