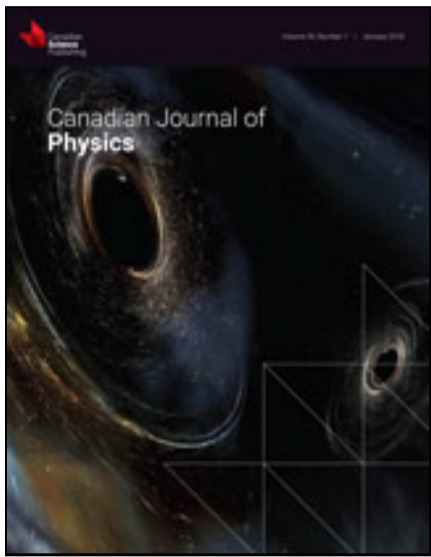


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## Article

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### Response of thermal source in transversely isotropic thermoelastic materials without energy dissipation and with two temperatures

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#### ABSTRACT

A two-dimensional problem in a transversely isotropic thermoelastic medium without energy dissipation and with two temperatures due to a thermal source is investigated. As an application of the problem, a particular type of continuous thermal source has been taken to illustrate the utility of the approach. The problem is solved numerically by using a finite element method. The displacement components, conductive temperature, and stress components have been obtained numerically and illustrated graphically for our particular model. Some special cases of interest are also discussed. The implementation of finite element method codes used C++. Numerical work is also performed for a suitable material with the aim of illustrating the results.

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