

## عنوان مقاله:

Finite Crack in a Thermoelastic Transversely Isotropic Medium Under Green-Naghdi Theory

## محل انتشار:

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## خلاصه مقاله:

In this paper, we have studied a model of finite linear Mode-I crack in a thermoelastic transversely isotropic medium under Green Naghdi theory. The crack is subjected to a prescribed temperature and a known tensile stress. The plane boundary surface is considered as isothermal and all the field variables are sufficiently smooth. The heat conduction equation is written under two temperature theory (۲TT) for Green Naghdi model which contains absolute temperature as well as conductive temperature. The analytical expressions of displacement components, stress components and temperature variables are obtained by normal mode analysis and matrix inversion method. Comparisons have been made within Green Naghdi (G-N) theory of type I, type II and type III for displacement, stress and absolute temperature variables against the crack width for a transversely isotropic material (Cobalt) by virtues of graphs. Also, Comparison have been made among displacement, thermal stress and absolute temperature for different depths.

## کلمات کلیدی:

Finite crack, G-N theory, Transversely isotropic medium, Wave propagation, Thermoelastic

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1393894>

