عنوان مقاله:

(Finite Difference Solution for a Transient Radiation and Conduction Heat Transfer in PolyMethylMethAcrilat (PMMA

محل انتشار:

بیست و یکمین همایش سالانه بین المللی مهندسی مکانیک (سال: 1392)

تعداد صفحات اصل مقاله: 5

نویسندگان:

Alireza Ghavimi - *Young Researchers Club, Hamedan Branch, Islamic Azad University, Hamedan, Iran*

Cyrus Aghanajafi - *K. N. Toosi university of Technology, Tehran, Iran*

Mohamad Javad mahmoodabadi - *Shahid Bahonar University. Iran. Kerman*

Reza Ghorbani nia - *guilan univefsity, Rasht, Iran*

خلاصه مقاله:

Combined transient heat transfer by radiation and conduction in polymethylmethacrylate (PMMA) is studied considering temperature conditions applied to the boundaries and monochromatic intensity. This paper is focused on one-dimensional transient heat transfer of a layer using Finite Difference Method. A computer implementation has been written, which is based on implicit finite difference formulation and is capable of considering the effect of radiation. The results are compared with other data. The non-linearheat conduction equation is analyzed using the Kirchhoff transformation associated with a centered finite difference scheme. Solutions are given to demonstrate the .temperature distribution and conduction and radiation heat flux profiles across the layer

کلمات کلیدی:

Radiative–conductive heat transfer; PMMA; Kirchhoff transformation