

Free Vibration Analysis of Functionally Graded Plates with Multiple Circular and Non-circular Cutouts

JANGHORBAN Maziar *, ROSTAMSOWLAT Iman

Department of Mechanical Engineering, Shiraz Branch, Islamic Azad University, Shiraz, Iran

Received November 20, 2010; revised June 15, 2011; accepted June 27, 2011; published electronically July 12, 2011

Abstract: Cutouts are inevitable in structures due to practical consideration. In order to investigate the free vibration of functionally graded plates with multiple circular and non-circular cutouts, finite element method is used. The volume fraction of the material constituents is assumed to follow a simple power law distribution. The parameters considered in this paper are as follows: cutout size, cutout location, number of cutouts and different boundary conditions. It should be mentioned that free vibration for FG plates (such as rectangular/skew/trapezoidal/circular plates) with multiple cutouts has not been studied yet and hence the results out coming from this paper may be used as bench marks for future works.

Key words: graded materials, rectangular/skew/trapezoidal/circular plates, multiple circular/non-circular cutouts

* Corresponding author. E-mail: maziar_jany@yahoo.com

[浏览 \(下载\) 论文全文 \(PDF格式\)](#)

关于我们-联系我们-网站地图-广告服务-人才招聘-加盟合作-法律声明

地址: 中国北京百万庄大街22号 邮编: 100037 电话: 8610-88379907 传真: 8610-68994557
E-mail: cjme@mail.machineinfo.gov.cn <http://www.cjmenet.com.cn>

©2006 版权所有《机械工程学报》编辑部

