



航空学报 » 1992, Vol. 13 » Issue (11) :619-626 DOI:

论文

最新目录 | 下期目录 | 过刊浏览 | 高级检索

<< Previous Articles | Next Articles >>

### 尖端具有非线性吸附接触的界面裂纹的动态特性研究

周振功<sup>1</sup>, 邹振祝<sup>1</sup>, 马兴瑞<sup>1</sup>, 王铎<sup>1</sup>, 段祝平<sup>2</sup>

1. 哈尔滨工业大学 哈尔滨 150006; 2. 中科院力学研究所 北京 100080

### RESEARCH ON DYNAMIC FEATURES BY AN INTERFACE CRACK WITH NON-LINEAR ADHERENT CONTACT AT ITS TIPS

Zhou Zhen-gong<sup>1</sup>, Zou Zhen-zhu<sup>1</sup>, Ma Xing-rui<sup>1</sup>, Wang Duo<sup>1</sup>, Duan Zhu-ping<sup>2</sup>

1. P.O.Box333, Hatbin Institute of Technology, Harbin, 150006; 2. Institute of Mechanics, Academia Sinica, Beijing, 100080

摘要

参考文献

相关文章

Download: PDF (385KB) HTML OKB Export: BibTeX or EndNote (RIS) Supporting Info

**摘要** 研究一类尖端具有非线性吸附接触型裂纹模型的弹性波散射问题。利用积分变换和积分方程方法推导了确定这类问题基本变量的奇异积分方程组,采用围道积分技术和切比雪夫多项式展开技术得到了待定系数的非线性代数方程组。最后给出了裂纹尖端接触区的大小和接触应力的数值结果,揭示了这种接触型裂纹模型的动力学特征及物理上的合理性。

**关键词:** 界面裂纹 弹性波散射 积分方程

**Abstract:** In this paper, scattering of elastic waves by an interface crack with adherent contact at its tips is considered. By use of integral transform and integral equation methods, the singular integral equations of this problem are derived, which are transformed into a set of algebraic equations by means of contour integral and Chebyshev polynomials extending techniques. The numerical results on contacting region and stresses amplitudes are given in this paper, which show that the dynamic features of this model are complicated, and this model is physically reasonable.

**Keywords:** interface crack elastic wave scattering integral equation

Received 1991-10-14; published 1992-11-25

#### 引用本文:

周振功; 邹振祝; 马兴瑞; 王铎; 段祝平. 尖端具有非线性吸附接触的界面裂纹的动态特性研究[J]. 航空学报, 1992, 13(11): 619-626.

Zhou Zhen-gong; Zou Zhen-zhu; Ma Xing-rui; Wang Duo; Duan Zhu-ping. RESEARCH ON DYNAMIC FEATURES BY AN INTERFACE CRACK WITH NON-LINEAR ADHERENT CONTACT AT ITS TIPS[J]. Acta Aeronautica et Astronautica Sinica, 1992, 13(11): 619-626.

#### Service

- ▶ 把本文推荐给朋友
- ▶ 加入我的书架
- ▶ 加入引用管理器
- ▶ Email Alert
- ▶ RSS

#### 作者相关文章

- ▶ 周振功
- ▶ 邹振祝
- ▶ 马兴瑞
- ▶ 王铎
- ▶ 段祝平