**عنوان مقاله:**

Mode III Fracture Analysis of an Anisotropic Finite Wedge under Various Varying Distributed Loadings

**محل انتشار:**

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**خلاصه مقاله:**

In this paper, the problem of two bonded anisotropic finite wedges with an interface crack subjected to anti-plane distributed shear loading has been investigated. The boundary conditions of radial edges are traction-displacement, and traction-free condition has been applied on the circular segment of the wedge. The anti-plane shear loading has been distributed in some familiar mathematical forms like linear, quadratic, exponential and sinusoidal. Since there is the response of the problem with Dirac-Delta boundary condition; basic mathematical concept namely Convolution Integral has been used for finding shear stress distribution on the wedge which is imposed by varying distributed loadings. Application of this concept in finding the shear stress distribution on the wedge has differenced this investigation from other fracture mechanics analysis. First, numerical response of the problem under quadratic loading has been validated by ABAQUS software response and then numerical responses of the problem under other forms of varying distributed loadings have been calculated, separately.

**کلمات کلیدی:**

Anisotropic, Distributed loading, Dirac-Delta,Convolution Integral, Numerical method

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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