

Convergence properties and mode mixity of the Virtual Crack Closure Technique applied to the evaluation of the Energy Release Rate of the fiber/matrix interface crack

Luca Di Stasio^{a,b}, Janis Varna^b, Zoubir Ayadi^a

^aUniversité de Lorraine, EEIGM, IJL, 6 Rue Bastien Lepage, F-54010 Nancy, France

^bLuleå University of Technology, University Campus, SE-97187 Luleå, Sweden

Abstract

Priority: 3

Target journal(s): Engineering Fracture Mechanics, Theoretical and Applied Fracture Mechanics, International Journal of Fracture

1. Introduction

2. Vectorial formulation of the Virtual Crack Closure Technique (VCCT)

3. Formulation of the ERR with respect to the FEM solution's variables

5 4. Convergence analysis

4.1. Analytical considerations

4.2. Numerical results

5. Conclusions & Outlook