

# Effect of uniform distributions of bonded and debonded fibers on the growth of the fiber/matrix interface crack in UD laminates with different fiber contents under transverse loading

Luca Di Stasio<sup>a,b</sup>, Janis Varna<sup>b</sup>, Zoubir Ayadi<sup>a</sup>

<sup>a</sup>Université de Lorraine, EEIGM, IJL, 6 Rue Bastien Lepage, F-54010 Nancy, France

<sup>b</sup>Luleå University of Technology, University Campus, SE-97187 Luleå, Sweden

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## Abstract

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### 1. Introduction

### 2. RVE models & FE discretization

*2.1. Models of Representative Volume Element(RVE)*

*2.2. Finite Element (FE) discretization*

5 *2.3. Validation of the model*

### 3. Results & Discussion

*3.1. Effect of Fiber Volume Fraction*

*3.2. Interaction of debonds in UD laminates with a single layer of fibers*

*3.3. Influence of layers of fully bonded fibers on debond's growth in a centrally  
10 located line of debonded fibers*

*3.4. Interaction of debonds in UD laminates with multiple layers of fibers*

subsectionComparison with the single fiber model with equivalent boundary conditions

### 4. Conclusions & Outlook