- Project proposal -

Microscopic observation and statistical analysis of initiation and propagation of the fiber/matrix interface crack

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1. Introduction

Only few researcher ([1, 2]) have attempted to quantify the size of debonding

2. Objectives

3. Materials

Glass-fiber and carbon-fiber cross-ply $[0^\circ_{m\cdot n}, 90^\circ_n]$ with $m = 1, 10, 6$ specimens for each lay-up and material combination, for a total of 24

4. Methods

5. Expected outcomes

6. Audience

1-2 students for Project Course or Master thesis.

References

[1] E. Correa, M. I. Valverde, M. L. Velasco, F. París, Microscopical observations of inter-fibre failure under tension, Composites Science and Technology 155 (2018) 213–220. doi:10.1016/j.compscitech.2017.12.009.

[2] P. L. Zumaquero, E. Correa, J. Justo, F. París, Microscopical observations of interface cracks from inter-fibre failure under compression in composite laminates, Composites Part A: Applied Science and Manufacturing 110 (2018) 76–83. doi:10.1016/j.compositesa.2018.04.004.