Internship at ISAE-SUPAERO / ICA for six month

Title : Damage modeling of aeronautical composite bolted joints
Supervisor : Pr. Frédéric LACHAUD, Benoit MONTAGNE (PhD)

1) Background

This work concerns the damage identification of composite bolted joints for military aircraft application and development of specific Finite Element Model.

ISAE-SUPAERO and Institut Clément Ader work on the design of a specific composite panel bolted and/or bonded joints for military aircraft application. In order to compare with Finite Element Models, the first objective of this work is to realize a test campaign of composite carbon bolted joint on tensile loads. Sample are already realized. 3D field measurements will be put on sample in order to acquire 3D strain and to identify damage mechanisms. A second part of the work will consist in developing a nonlinear numerical model with ABAQUS software.

2) The Internship

In this context the objective of the intern is:

_ Realize Tensile tests of single lap composite bolted joint
_ Finite Element modeling of the tests
_ Perform comparison study

The candidate should have knowledge on composite materials, FE modeling, and design of aircrafts.

Date: from October or November 2018
Duration: 5 to 6 months
Remuneration: 650¤ per month
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