Master Proposal: Simulation of CFRP composite machining using discrete element methods

Objectifs

- Propose a constitutive model for CFRP machining
- Development of a orthogonal cutting model using discrete element methods
- Validation of the developed cutting model by few cutting tests using high speed imaging system
- Analyse the influence of fibre orientation on the composite delamination
- Apply the developed orthogonal cutting model to explain the delamination in 3D machining (drilling)

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Profil

- Basic knowledge in numerical methods
- Experience in FEM software or equivalent
- Interest in modelling and simulation
- Thesis has to be written in English

Duration
- Beginning: Flexible but preferable at February / March 2018
- Duration: 5-6 months