We are looking for strongly motivated candidates for a

double-degree Ph.D. Thesis

between the Université de Pau et des Pays de l'Adour and the University of Zaragoza.

Wave/Matter Interactions for Rough and Heterogeneous surfaces: Application to Unidirectional Composites

Description:

The development of thermoplastic composite materials and their processing is a challenge for the years to come. Moreover, they can very easily be endowed with particular properties, multiple functionalities, and even gradient properties in a wide range of areas, as well as offer the possibility of being recycled.

This work aims at:

1 – Design an experimental device to study the interactions between different light wave and unidirectional composite material
2 – Propose a modeling of the interactions based on data driven analysis.

Key Words:

Wave / matter interactions. Thermoplastic composites. Thermal instrumentation / thermal modeling. Modeling Multiphysics, Scientific machine learning, surfaces, topography, consolidation process.

Activities:

Numerical simulation, data driven analysis, multiscale approach (75%)
Experimental work (device design, measurements in process real conditions) (25%)

Skills:

Scientific curiousity, autonomy, fluent Spanish/English/French. Programming (Matlab, python, eventually PyTorch, TensorFlow, …)

Type of contract: PhD, 36 months from October 2020

Location: IPREM UPPA \ Pau and UNIZAR Zaragoza.

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