

Research Grants for PhD students from the China Scholarship Council

Information Form (please read the guidelines carefully on the website www-csc.utt.fr)

Supervisor's name : Given names :

Status (prof., assistant prof., ...) :

Laboratory : Website address :

Institution : Website address :

Scientific competence of the supervisor:

Nathalie Godin is an Associate Professor at the National Institute of Applied Sciences (INSA) in Lyon, France. She has 20 years of experience in AE and in the analysis of damage in various kinds of materials. She has authored over 60 articles, 6 book chapters and a book and has been an invited speaker at numerous professional research conferences.

Two major publications in the field proposed for the PhD :

1.
2.

Website address of the personal page :

Supervisor's email :

Description of the research work proposed for a PhD **Topic # (see list) :**

Title :

Subject :

The objective of this work is twofold: On the one hand, it aims at developing predictive and reliable models and simulations of crack initiation and propagation under quasi-static or dynamic loading conditions. On the other hand, it aims at simulating the acoustic emission, i.e. the wave propagation in the material due to fracture, in order to enrich the understanding in the use of acoustic emission during experimental tests. A model material such as PMMA will be studied in order to: 1) characterize experimentally crack initiation and propagation under different kind of loadings (quasi-static or dynamic, mixed mode) as well as resulting acoustic emission signals. To this aim, laboratory tests on specimens with a simple geometry will be adopted; 2) set up modeling and simulations of crack initiation and propagation under such conditions. These models will allow predicting both crack initiation and stable or unstable propagation under various loading conditions; and 3) propose numerical simulations of acoustic emission within the material. This will for instance allow studying the influence of the type of sensors or their placement on the specimen, which is a key feature in order to optimize the acquisition set up.

Keywords :

Expected collaborations :

Background required from the applicant :

Existence of a PDF file detailing the proposal ("yes" or "no") :

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