Non-destructive Testing (NDT) using non-contact ultrasonic transducer array

Record number : OPR-355

Overview

RESEARCH DIRECTION

Nicolas Quaegebeur, Professeur - Department of Mechanical Engineering

INFORMATION

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ADMINISTRATIVE UNIT(S)

Faculté de génie
Département de génie électrique et de génie informatique
Département de génie mécanique

LEVEL(S)

2e cycle
3e cycle

LOCATION(S)

Campus principal
GAUS - Groupe d'Acoustique de l'Université de Sherbrooke

Project Description

The ultrasound team is looking for a master's / doctoral / post-doc candidate around issues related to the field of Non-Destructive Testing of Industrial Structures and Processes by non-contact ultrasonic imaging.

Aeronautical and civil robotic inspection applications are considered using air-coupled ultrasonic probe arrays.We are looking for a wide variety of profiles who may have a strong interest or expertise in one or more of the following areas:
- Acoustics and vibrations (theoretical)
- Digital signal processing and simulation (Matlab / python)
- Multi-physical system modeling (COMSOL)
- Mechanical physics and wave propagation in general
- Micromachining and transducer assembly

The student will be integrated into the GAUS ultrasound team, which includes 3 professors and a set of infrastructures unique in Canada (3D scanning vibrometer, ultrasound imaging systems, rapid prototyping, air-coupled probes). Stimulating environment guaranteed!

Discipline(s) by sector

Sciences naturelles et génie

Génie électrique et génie électronique,
Génie mécanique

Funding offered

Yes

The last update was on 23 October 2025. The University reserves the right to modify its projects without notice.