

Subjective validation of a virtual vibro-acoustic mock-up

Record number : OPR-190

Overview

RESEARCH DIRECTION

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INFORMATION

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RESEARCH CO-DIRECTION

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ADMINISTRATIVE UNIT(S)

Faculté de génie
Département de génie mécanique

LEVEL(S)

2e cycle
Stage postdoctoral

LOCATION(S)

Campus principal

Project Description

This research project is part of an ambitious and multidisciplinary project (dXBel) aimed at developing and validating a vibro-acoustic virtual mock-up allowing the simulation, reconstruction and listening of the noise to the operator and to the passing of recreational vehicles.

The objective of this tool is to listen to and compare the acoustic behavior of recreational vehicles for different configurations, to lead to quieter vehicles for the operator and the passage, to improve their sound quality, to reduce the time required for development and to reduce the number of prototypes. This, the vibro-acoustic mock-up will virtually modify the sound signature, according to the desired sound profile by users.

The research work of the student at the master's degree (Maîtrise) consists in validating the mock-up from a perceptual point of view (sound quality), to ensure the good reproduction of sound signals. The student will work with a PhD student, a professional research and two professors, specialists in acoustics and vibration.

The project will be carried out in collaboration with the Centre de technologie avancées BRP-Université de Sherbrooke Advanced Technology Center and involves 11 graduate students. <https://cta-brp-udes.com/fr/projet-dx-bel> Sound, vibration and basic signal processing skills are desired.

Discipline(s) by sector

Sciences naturelles et génie

Génie mécanique

Funding offered

Yes

Partner(s)

CTA-BRP - Centre de Technologies avancées

The last update was on 13 March 2024. The University reserves the right to modify its projects without notice.