Location: Graz, AT, 8020
Company: AVL List GmbH
Job Function: Powertrain Engineering
Contract Type: Thesis
Posting Date: May 30, 2023
Job ID: 35560

We offer the following research topic

Thesis - Hybrid Aeroacoustic investigation of rotating axial fan modelled as EMBB

Master Thesis

The scope of this master thesis is to investigate aeroacoustic noise emission from the case of a rotating axial fan by modelling the fan as a rotating Embedded Body (EMBB) on a stationary mesh. Scale resolving approaches to simulation of turbulent flow fields e.g., Large-Eddy Simulation (LES), can directly deliver accurate acoustic source terms as input for the following acoustic simulation (AS). The described workflow should be applied with AVL FIRE M, for the LES, where the rotating fan is modelled as an EMBB with openCFS for solving the PCWE. The flow and acoustic results should be analyzed and compared against literature for validation.

WHAT WE OFFER YOU:

- Literature research on the hybrid CAA approach and current methods
- LES simulation of the rotating fans with the rotating fan modelled as EMBB to provide acoustic source terms
- Application of the workflow with AVL FIRE M and openCFS
- Result analysis and validation

WHAT WE LOOK FOR:

- Experience with the 3D simulation and meshing is appreciated
- Programming skills are advantageous
- English or German language skills

WHICH STUDY TRACKS WE PREFER:

- Mechanical engineering
- Electrical engineering
- Or similar

The successful completion of the thesis is remunerated with a one-time fee of EUR €3,500.00 before tax.

You don't want to write your final thesis just for the books, then explore the mobility of the future together with us! Maybe you will be a part of it soon!

About AVL

AVL is one of the world's leading mobility technology companies for development, simulation and testing in the automotive industry, and beyond. We provide concepts, solutions and methodologies in fields like vehicle development and integration, e-mobility, automated and connected mobility (ADAS/AD), and software for a greener, safer, better world of mobility.

Find out more:
www.avl.com

Contact: stefan.schoder@tugraz.at

More information: