



Aeroacoustics of fluid-structure interactions

Proposed degrees for this position: MSc and PhD

Starting date: Immediate

Aeroacoustics is a branch in unsteady aerodynamics dealing with the conversion of hydrodynamic kinetic energy into sound waves and their propagation to the far field. Almost every aeronautical application generates sound, including flows over airfoils, turbulence in combustion chambers, jet emission from aircraft engines, etc.

When modeling aeroacoustic phenomena, particular care should be taken to describe the sources of sound and apply appropriate acoustic analogies to evaluate the far-field radiation.

Proposed research topics include investigation of the coupling between aeroelastic and aeroacoustic phenomena, common in biological (insect and bird flight) and industrial (micro-air-vehicle flight) applications; examination of acoustic analogies for the prediction of small-scale flight noise; and development of noise control methodologies for practical applications.

The research incorporates theoretical and numerical aspects.



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