Chair for Computation in Engineering
Chair of Computational Modeling and Simulation
Chair of Structural Mechanics

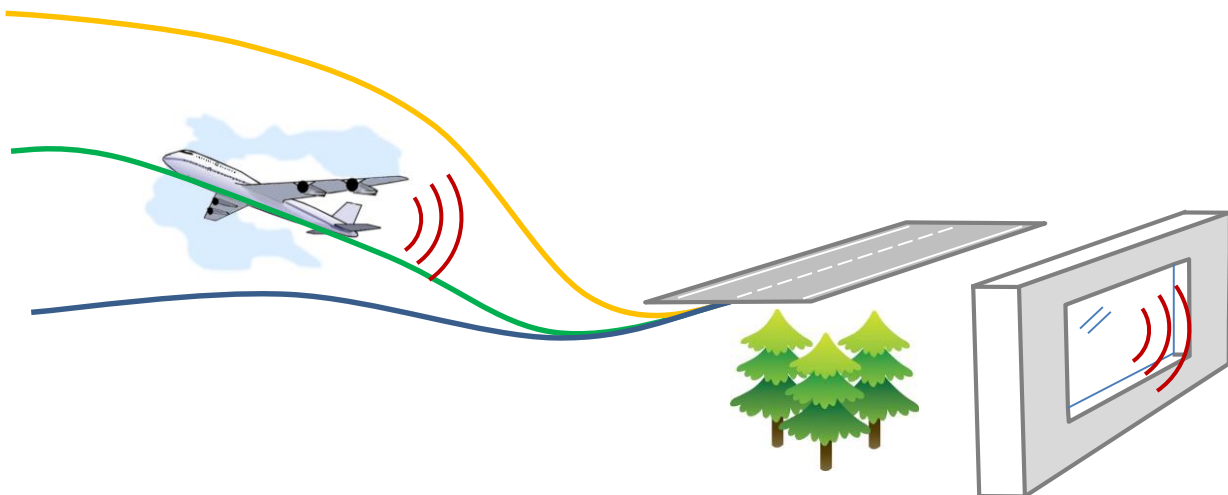**Software Lab:**

Mathematics: ★★★☆☆
Programming: ★★☆☆☆
Effort: ★★★☆☆

Acoustic simulation and auralization of noise pollution in airport surroundings

Setting

Consider a building standing close to an airport. Starting and landing airplanes produce intense noise pollution. However the actual amount of sound reaching the building's inside depends on several factors, like the rate of climb of the aircraft, the texture of the surface between the airport and the building, or the kind of window.

Goal of this software lab is to develop a software tool using MATLAB® for the acoustic simulation of different scenarios. One result will be the auralization of the noise (i.e. make the noise actually audible) at different stages of the simulation.
This software lab will be supervised by the Chair of Computation in Engineering and the Chair of Structural Mechanics.

Task

Create an application that allows to …
- simulate the noise pollution of a starting/landing airplane
- vary different parameters, like rate of climb, thickness of the window,…
- auralize the noise at different stages of the simulation

Supervisors

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