**Project Description**

- **Main Objective:** To study:
  - Character of radiation modes
  - Calculation methods of acoustic radiation modes, and to apply the acoustic radiation mode in:
    - Noise source identification
    - Structural optimization for minimizing noise radiation.
  - Application: Product design, source identification

**Approach**

- **Analytical Modeling**
  - Using virtual case study to assess the feasibility of using acoustic radiation modes in the source identification application (inverse method)
  - Applying acoustic radiation modes in structural design for noise reduction

- **Numerical Methods**
  - Proving that acoustic radiation modes can be obtained in different ways

- **Experiments**

**Conclusions**

- **Acoustic radiation modes:**
  - Have shown the ability to not only identify the source, but also the sound power distribution in the vibration patterns
  - Have been successfully applied in structural design for reducing noise
  - Can be calculated in a way with reduced effort

**Results**

**Source Identification**

**Structural Design**

**Summary:** Acoustic radiation mode is an effective tool in structural design and noise source identification.