

# Harmonic analysis of structures comprising materials with different damping characteristics

## Setting

- The harmonic analysis is a method to determine the vibration behavior of a structure under harmonic load in a steady state within a certain frequency range.
- Procedure: Solving the equation of motion several times. Only the frequency of the load changes.

## Your Tasks

Enable the finite element software AdhoC to run a harmonic analysis. Therefore, you will implement

- the derivation of element damping matrices
- the assembling into a global damping matrix
- a method to solve complex systems of equations.

**Programming language: C**

## Project Characteristics

Mechanics: ★★★★★☆  
Mathematics: ★★★★★☆  
Programming: ★★★★★☆

