universität innsbruck

Universität Innsbruck
Institut für Grundlagen der Technischen Wissenschaften
Arbeitsbereich für Angewandte Mechanik

Masterarbeit:

Active vibration control of a cross-laminated timber panel

Vibration control is a wide field of study that aims to modify the dynamic response of a system as desired. This can be achieved through passive approaches, active approaches, or a combination of both. Of interest here is active control, in which an actuator interferes with the structure being controlled.

The Master's thesis will focus on **active vibration control**, where active control methods are used to reduce the vibration of the target structure. Several control approaches can be used for this purpose, including **optimal control approaches**, which will be the main topic of the thesis.

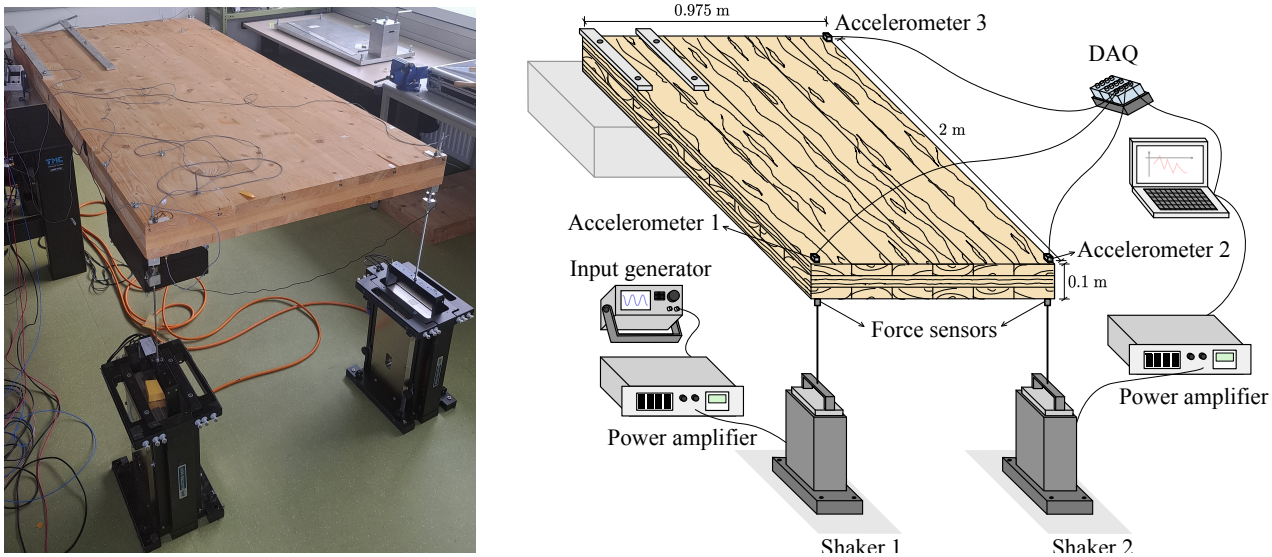

Figure 1: Experimental setup of the control system composed of a CLT panel and two electrodynamic shakers

- **Goal and methods:**

  The system of interest consists of a **cross-laminated timber** (CLT) panel and two electrodynamic shakers (one to apply a disturbance to the panel and another one for the control itself).

  The Master's thesis will include **literature review of active control methods**, **modeling of the CLT-shakers system**, as well as **experiments and numerical simulations**.

- **Required prior knowledge:**

  MATLAB

  The Master's thesis will be carried out **in English**

- **Contact:**

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