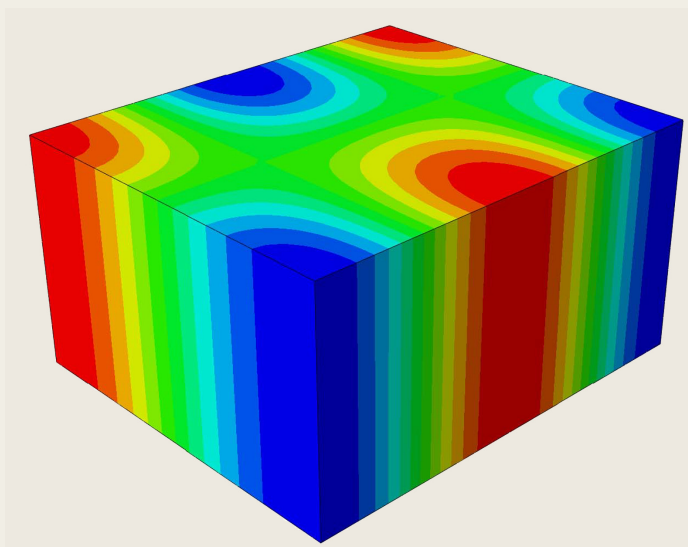


EXAMENSARBETARE SÖKES!

NUMERICAL MODELS FOR PREDICTING LOW-FREQUENCY NOISE



DESCRIPTION

Densification of cities due to growing population in towns brought alongside high-rise buildings, nowadays those often being constructed of lightweight, cheaper and sustainable materials such as wood. Due to the latter, existing vibration sources such as motorways, railways, harbours or simply the neighbours' daily activities can have a very high impact on the vibroacoustic behaviour of such structures, triggering complaints from the people living in them.

The objective of this master thesis is to investigate modelling techniques (using the finite element method) to create vibroacoustic prediction tools of high-rise wooden buildings. The development of the numerical methods will be done by combined use of measurements and simulations. More specifically, focus will be put into the prediction of the sound pressure field radiated into a room as well as the description of typical loads. Moreover, proposing solutions (both from a structural and acoustic point of view) which can improve acoustic comfort in dwellings subjected to different types of loads is in the scope of this project.

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