



Vibration Serviceability Performance of Mass Timber Floors with Beam and Column Supports

<https://research.thinkwood.com/en/permalink/catalogue2818>

Organization: University of Northern British Columbia

Material: CLT (Cross-Laminated Timber)

DLT (Dowel Laminated Timber)

NLT (Nail-Laminated Timber)

Application: Floors

Topic: Acoustics and Vibration

Keywords: Frequency

Span Length

Vibration Performance

Mass Timber

Dynamic Behavior

Footfall Excitation

Research Status: In Progress

Notes: Project contact is Jianhui Zhou at the University of Northern British Columbia

Summary:

Floor vibration performance could govern the allowable span of mass timber floors. The objectives of this project are:

1. to develop a mobile app to collect data from lab and field mass timber floors for acceleration-based performance criteria;
2. to investigate the dynamic properties of mass timber floors under different boundary conditions;
3. to adopt frequency equations to predict the fundamental frequencies of mass timber floors under different boundary conditions;
4. to develop numerical modeling strategies for predicting vibration response of mass timber floors under footfall excitations.