Beyond « Clear Wood »: Exploring the Structure-Properties of Figured Woods and of Woods with Strong Gradients Selected in Craftsmanship

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Background

Natural
Heterogeneity
Orthotropy(O)

Work Plans

Artisanal Usage
Typology
Diversity of Mechanics
Experiments Multi-scale FEM
Sensory

Universes of Orthotropy

Considered in Research

Property

Singularity

Orthotropy(O)
The Preliminary Impression for the Methodology to Approach the Intention

MFA
Grain direction

Physical

Mechanical tests
Micro-specimen

Theoretical & Numerical

Describing the characteristic of the figured wood

Multiscale

Transforming the mechanical properties from Local to Global

Finite Element Model

Mechanical Tests
Large specimen

Quantifying the ratio of with/without figured part by optical measurement

7e GDR du BOIS | Cluny, France | 20-22, Nov, 2018