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MIcroscale characterization and modelling of energy DIssipation mechanisms to optimize damping of plant FIbers Composite structures

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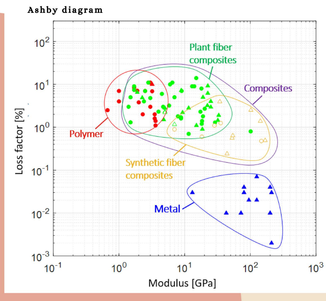
Context

- Loss factor of PFCs is generally significantly higher than that of synthetic fiber composites
- Origin not clearly elucidated / contradictory reports are found in literature
- Knowledge on the damping behaviour of PFCs is sometimes deficient or ambiguous
- Hierarchical aspects have to be considered

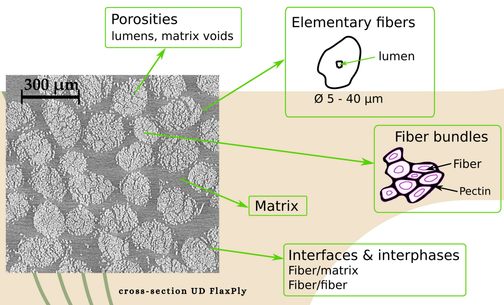


Microscale dynamic characterization

- Dynamic experimental development at fiber scale
- Dynamic properties of elementary fibers and bundles
- Dynamic properties of the matrix/fiber interphase

Composite damping multiscale optimization

- Damping stochastic multiscale modeling development
- Characterization and model validation
- Composite multi-objective optimization



Proofs of concept and demonstrators with low environmental impact

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