

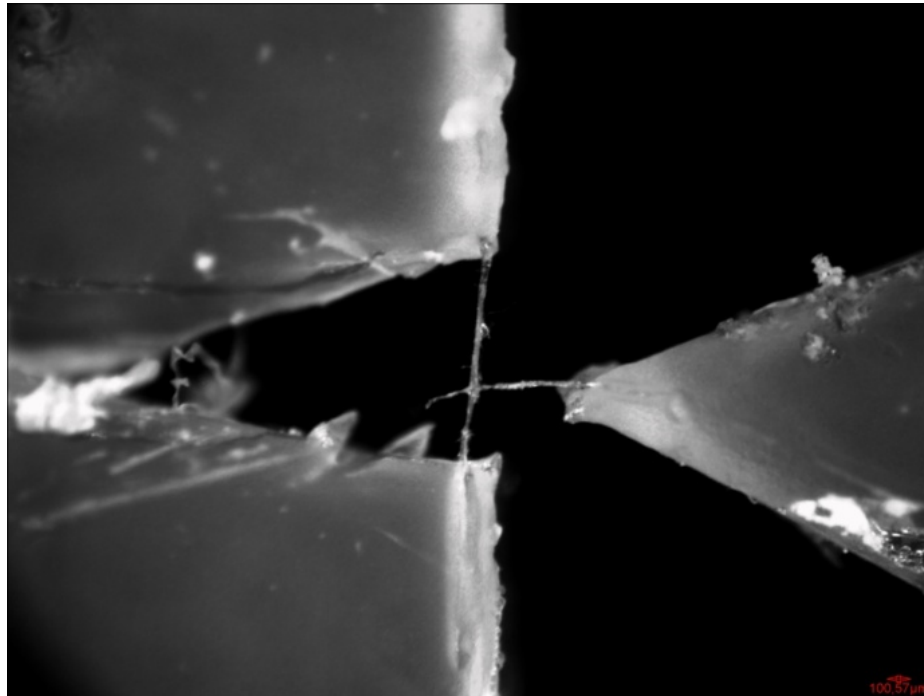


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Inter-Fibre Bond Strength

Experimental and Numerical Evaluation of Normal and Shear Loading

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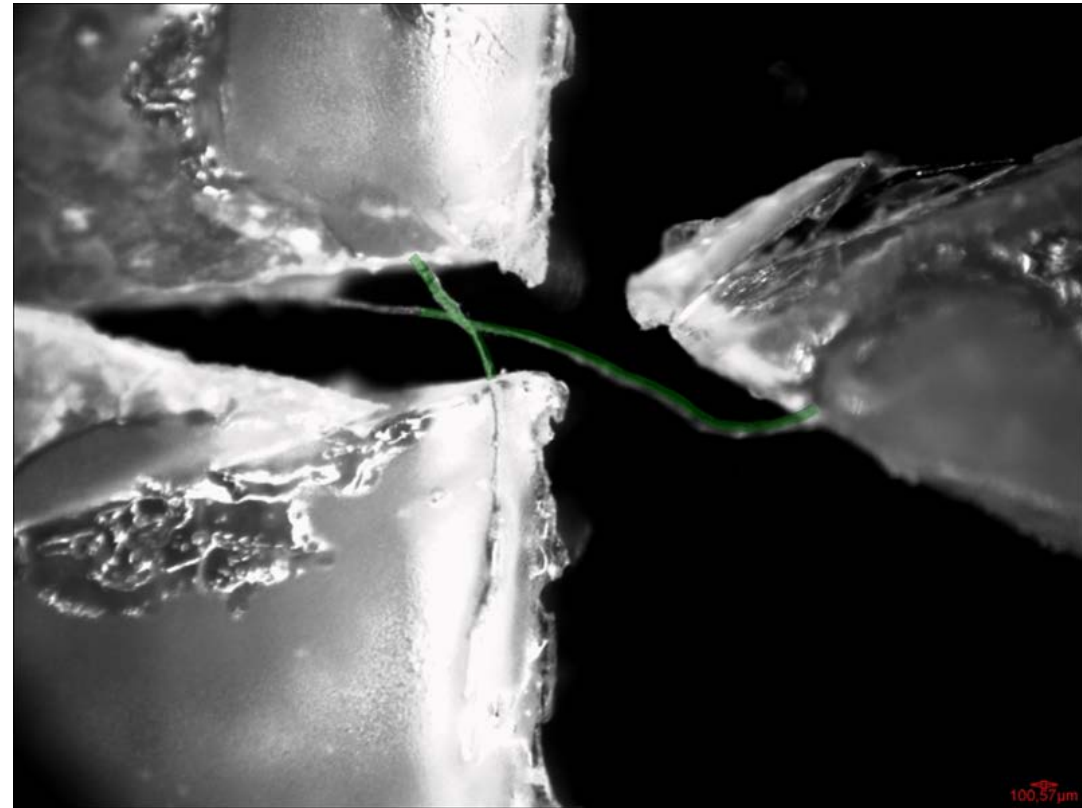




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Sample preparations

- Pulp fibres dried
- Extracted and glued
- Plane geometry captured
- Tested in tensile stage with miniature 0.5 N load cell and digital camera

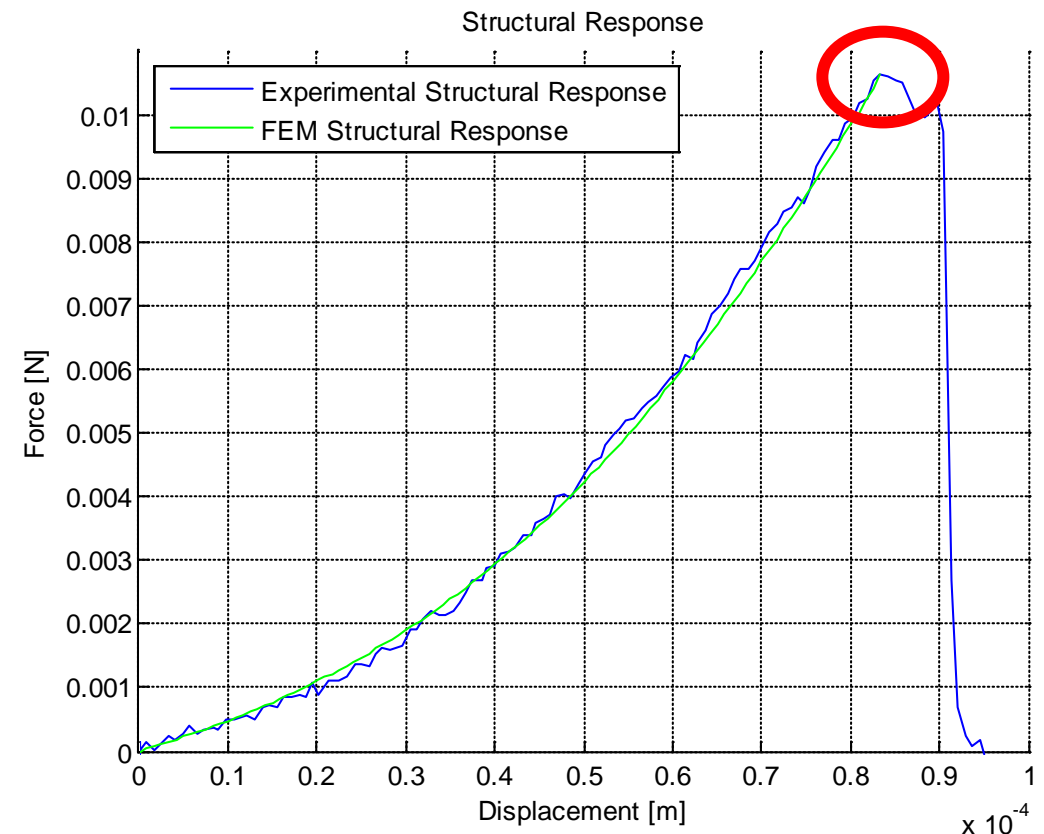




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Evaluation Structural Response

- Non linear behavior is mostly due to the geometry of the structure
- Calibration of analysis model by initiation of failure

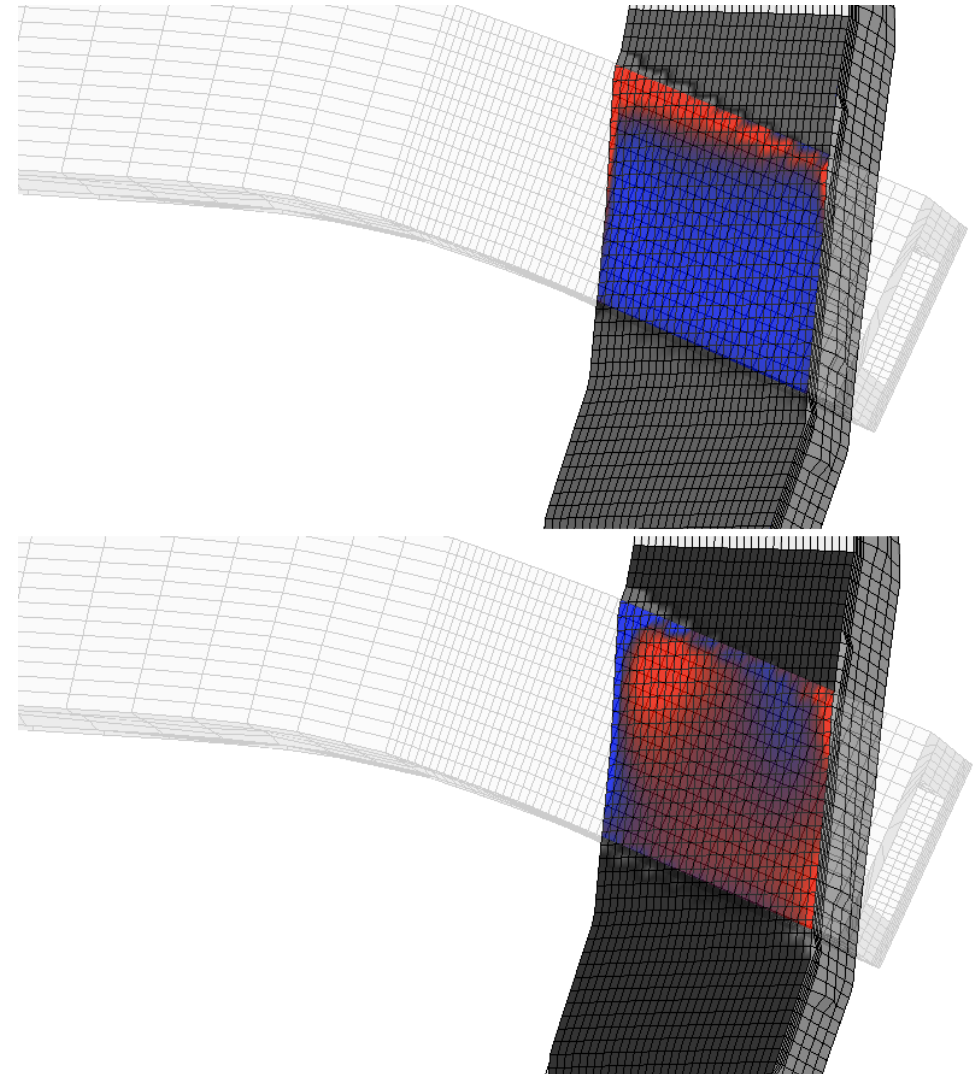




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Interface Results

- Normal interface tractions
- Shear interface tractions in the pulled and perpendicular to the pulled direction





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Concluding remarks

A method has been developed for:

- Manufacturing of fibre-fibre cross specimens
- Mechanical testing
- A first approximation of three interface tractions (normal and shear in two directions) at failure

ASK ME MORE AT THE POSTER SESSION!