



Montpellier, France STSM work June 2013

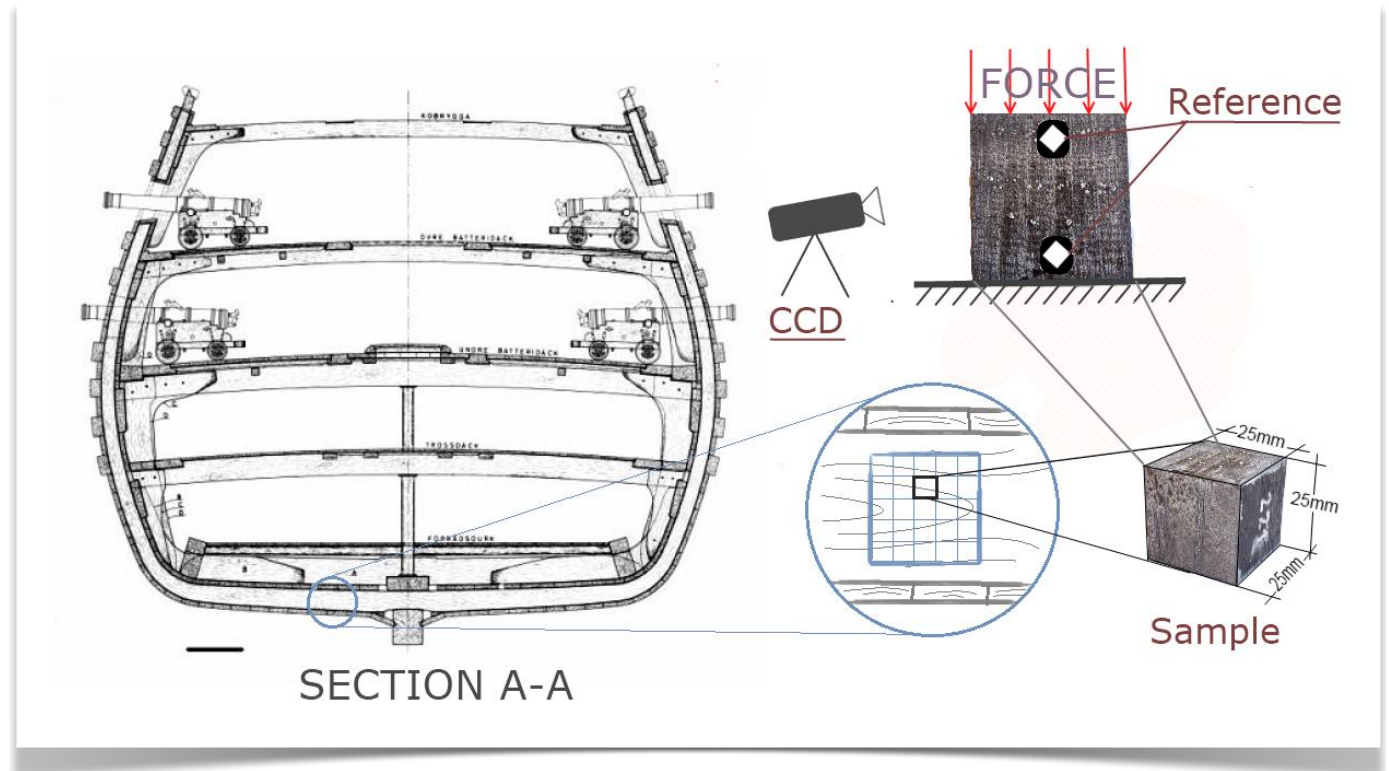
Elastic characterization of the Vasa wood by resonant ultrasound spectroscopy and comparison with compression test



Vasa oak



Recent oak



The samples of Vasa wood have been taken directly from the hull of the ship. Thereafter they have been tested in compression in order to obtain the stiffness and Poisson's ratios using digital image correlation



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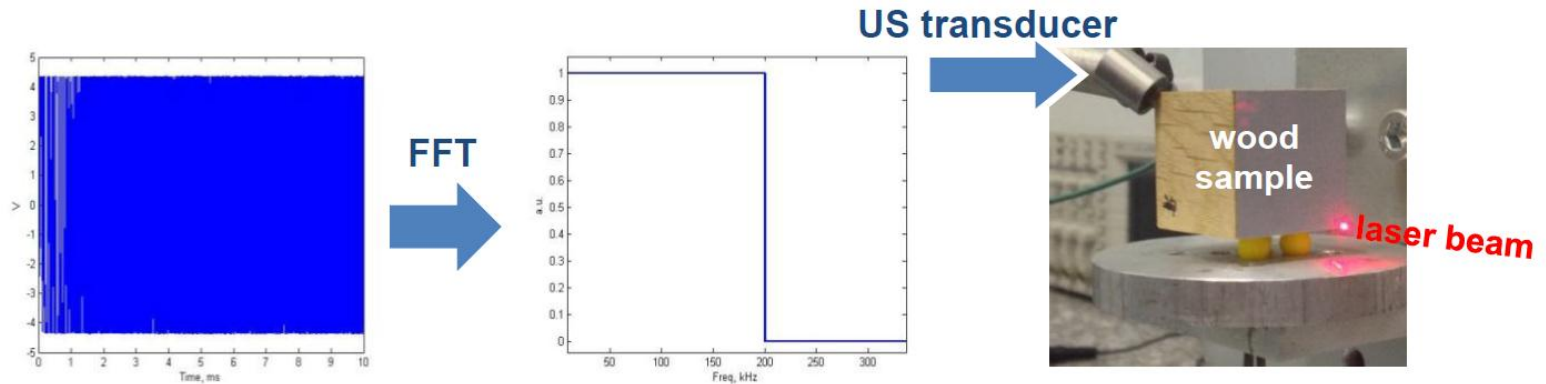


Figure 1. Excitation of the cube wood sample through an ultrasound transducer with a multi harmonic signal.



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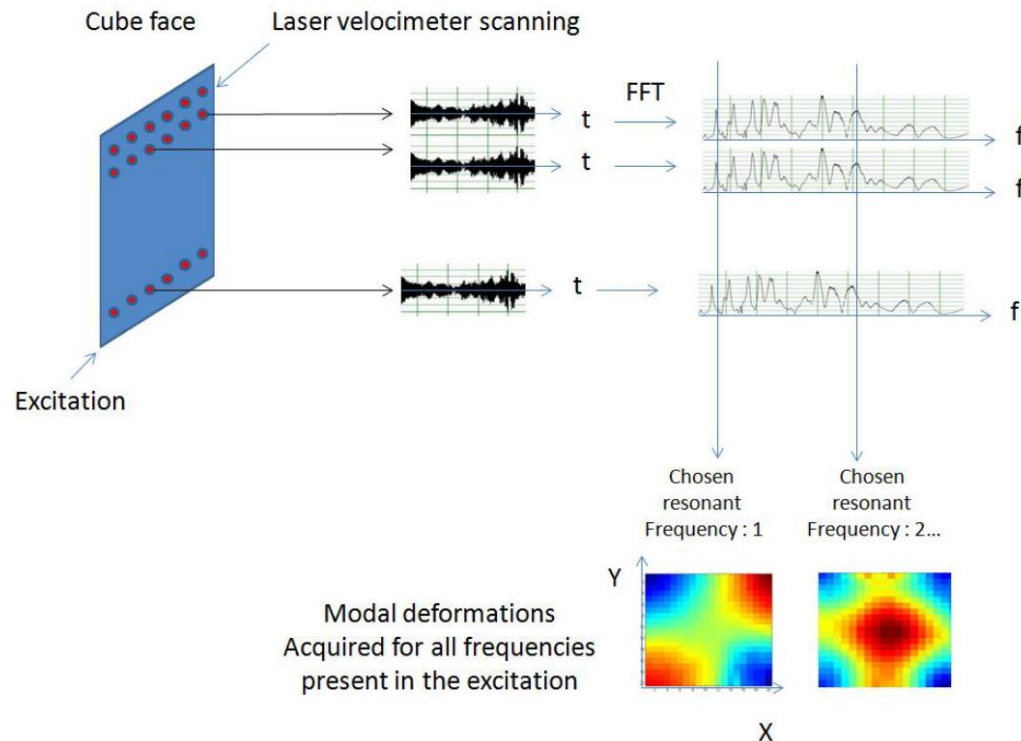


Figure 2. Mode shape measurement principle with the laser velocimeter (see Figure 1)



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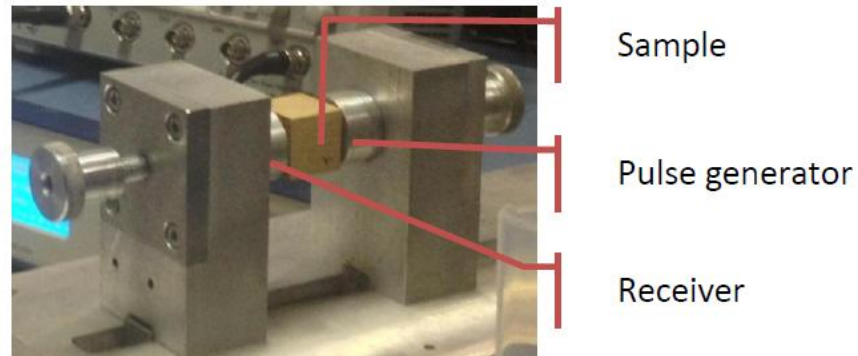
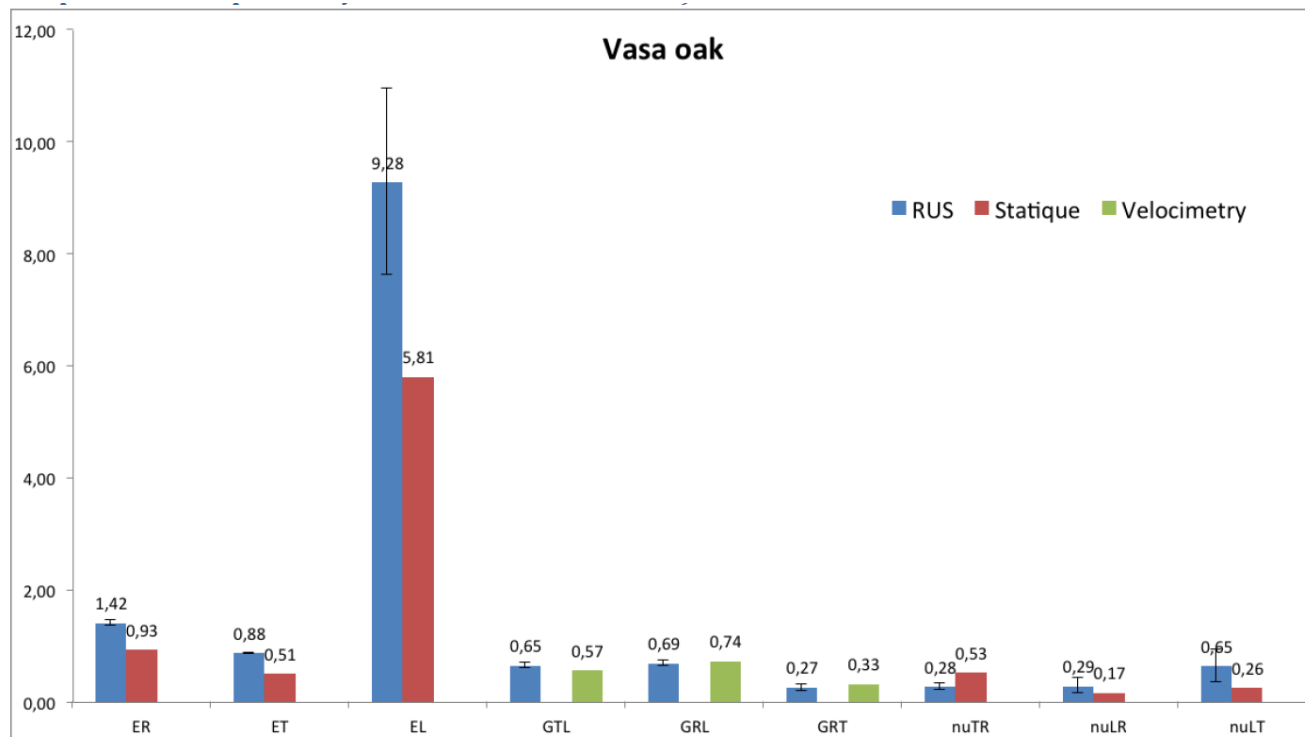


Figure 3. Pulse echo measurements bench.



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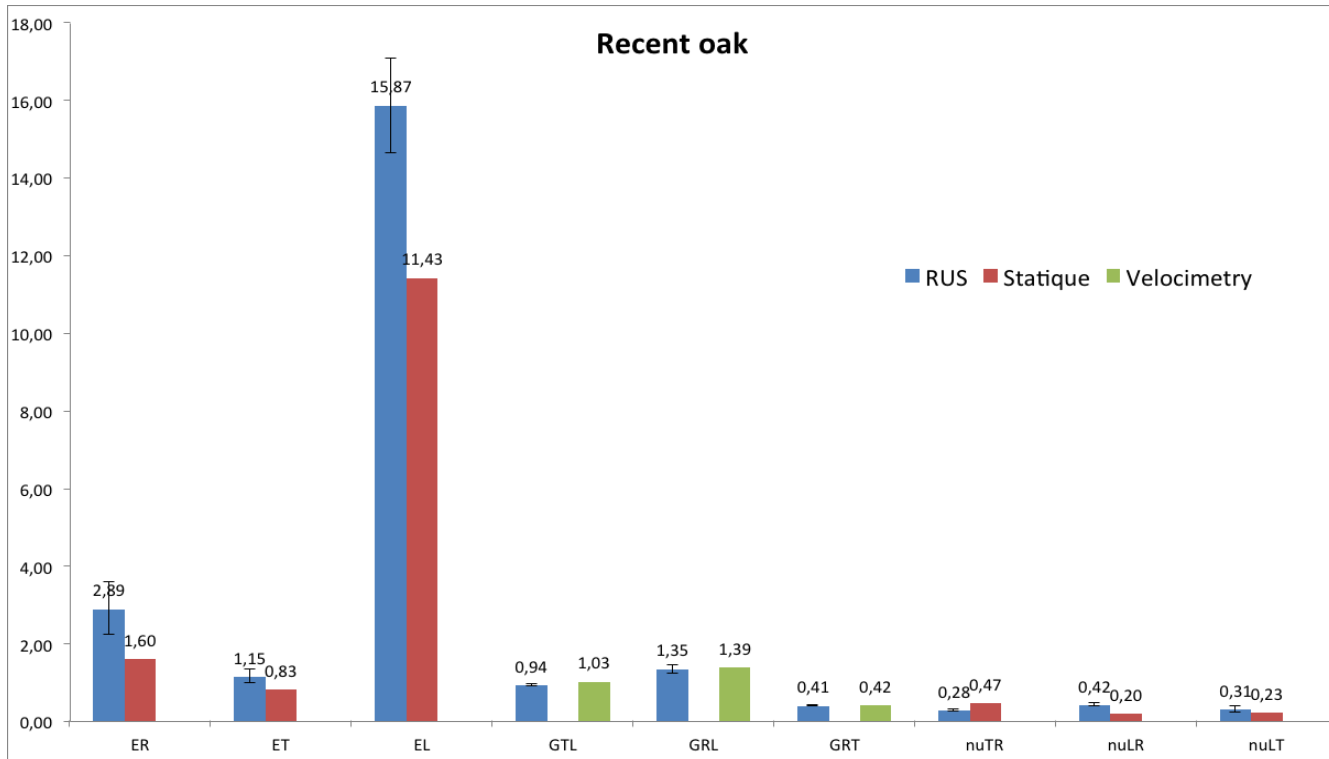


Preliminary comparison of results between RUS and Static measurements (Velocimetry has been taken in comparison due to previously unidentified shear modulus).



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