

*Article*

# Novel Procedures for Sustainable Design in Structural Rehabilitation on Oversized Metal Structures

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## Supplementary

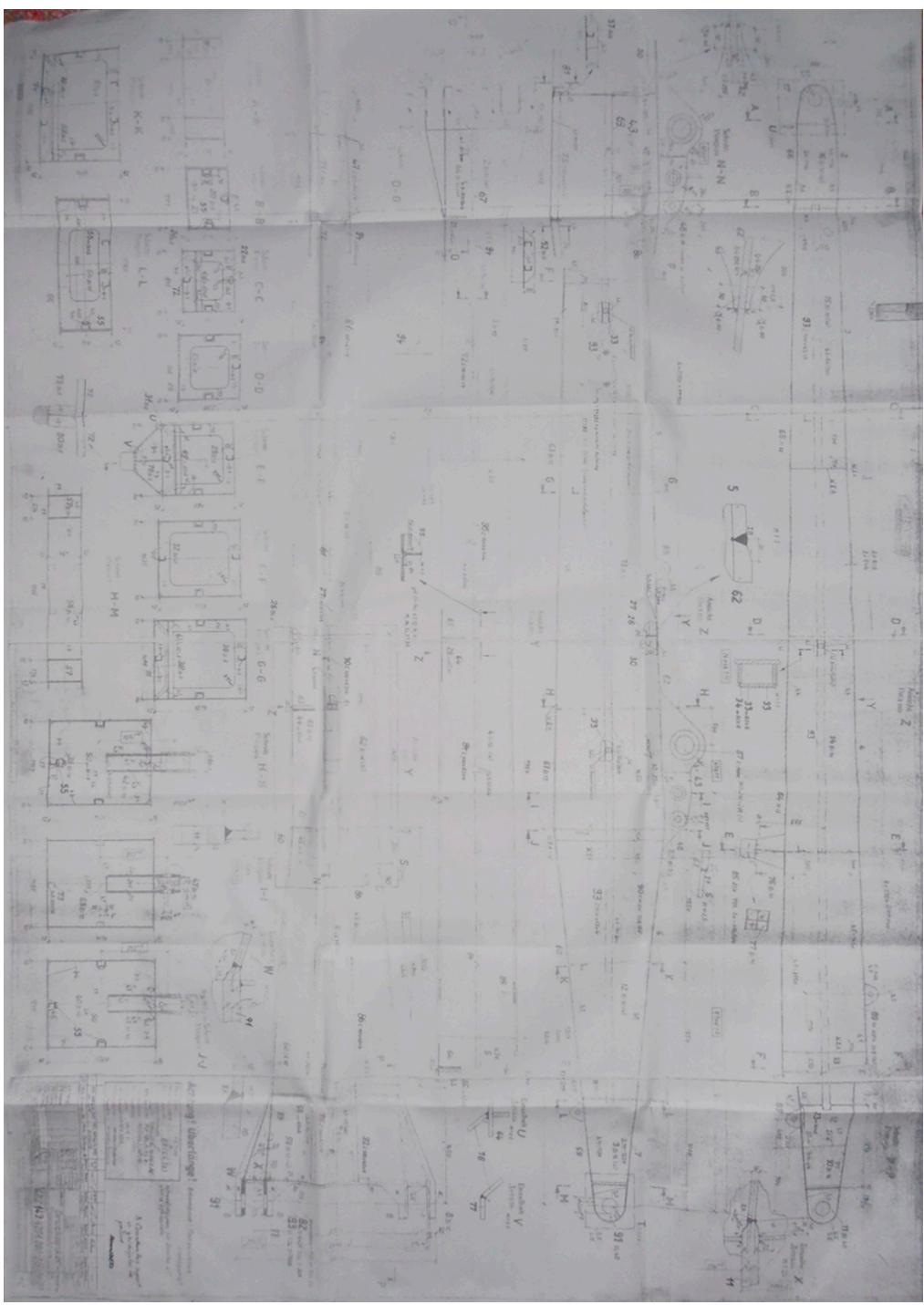


Figure S1. Archive documentation

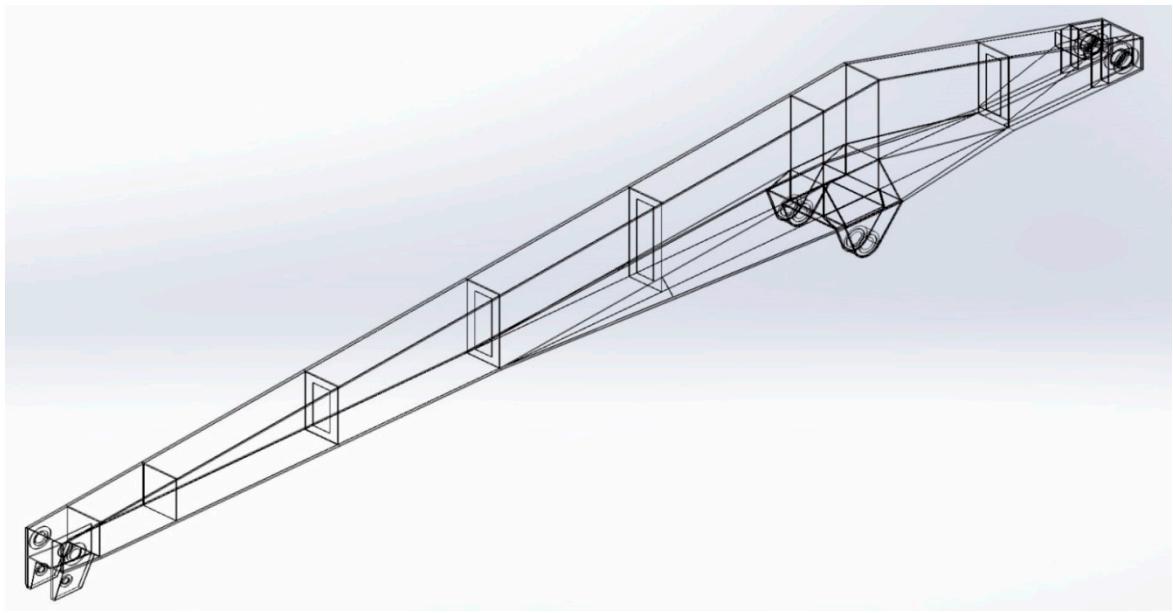


Figure S2. Superior arm

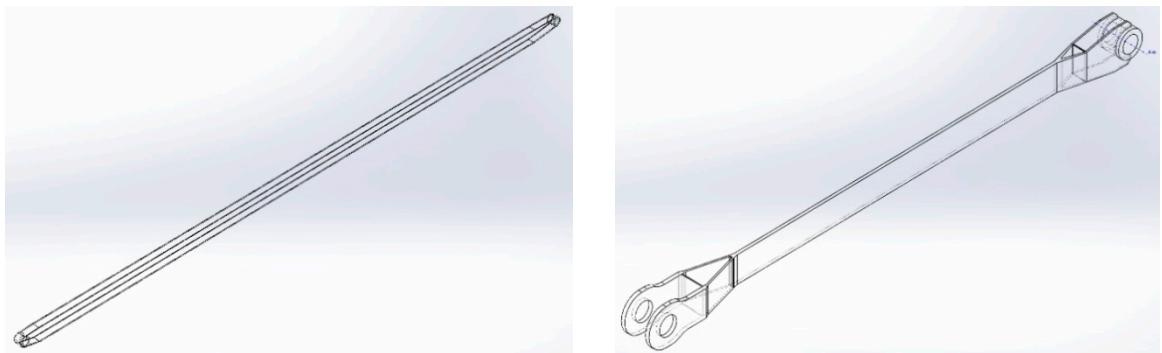


Figure S3. Quadrilateral mechanism-closing elements

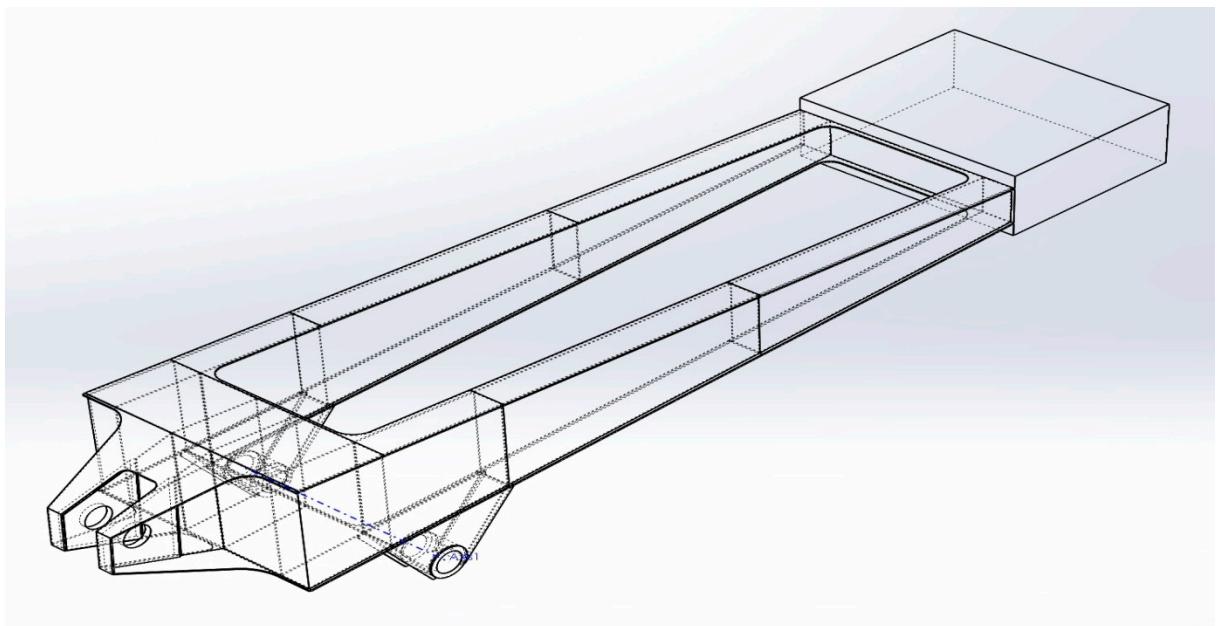


Figure S4. Counterweight

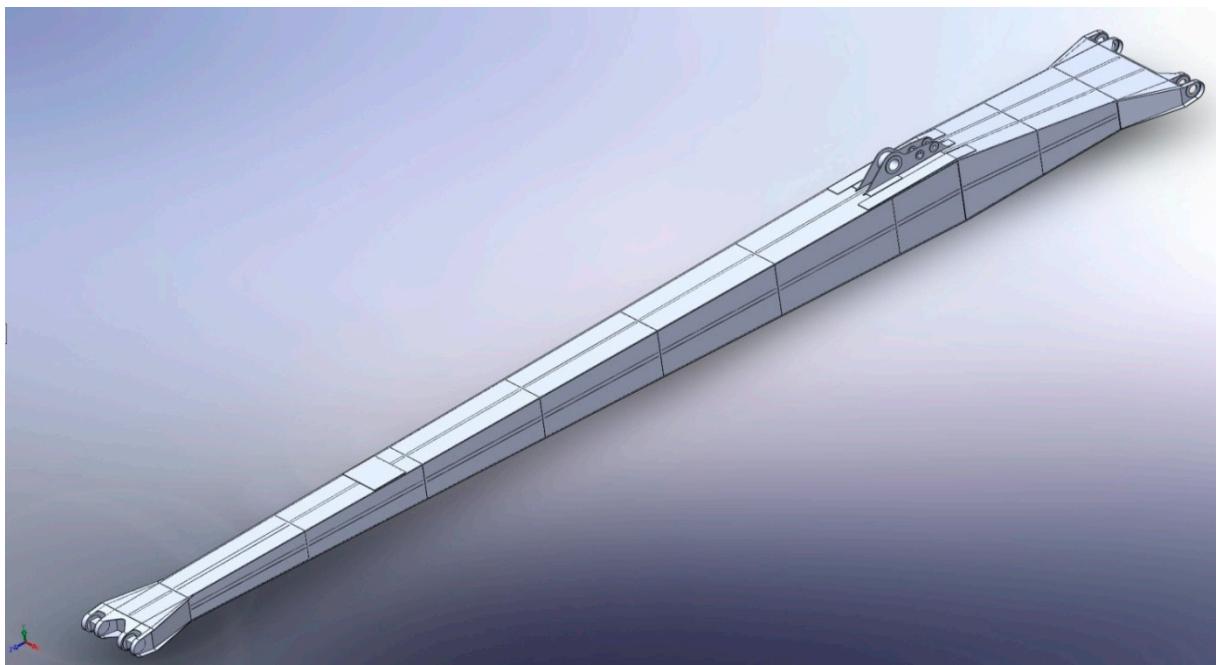
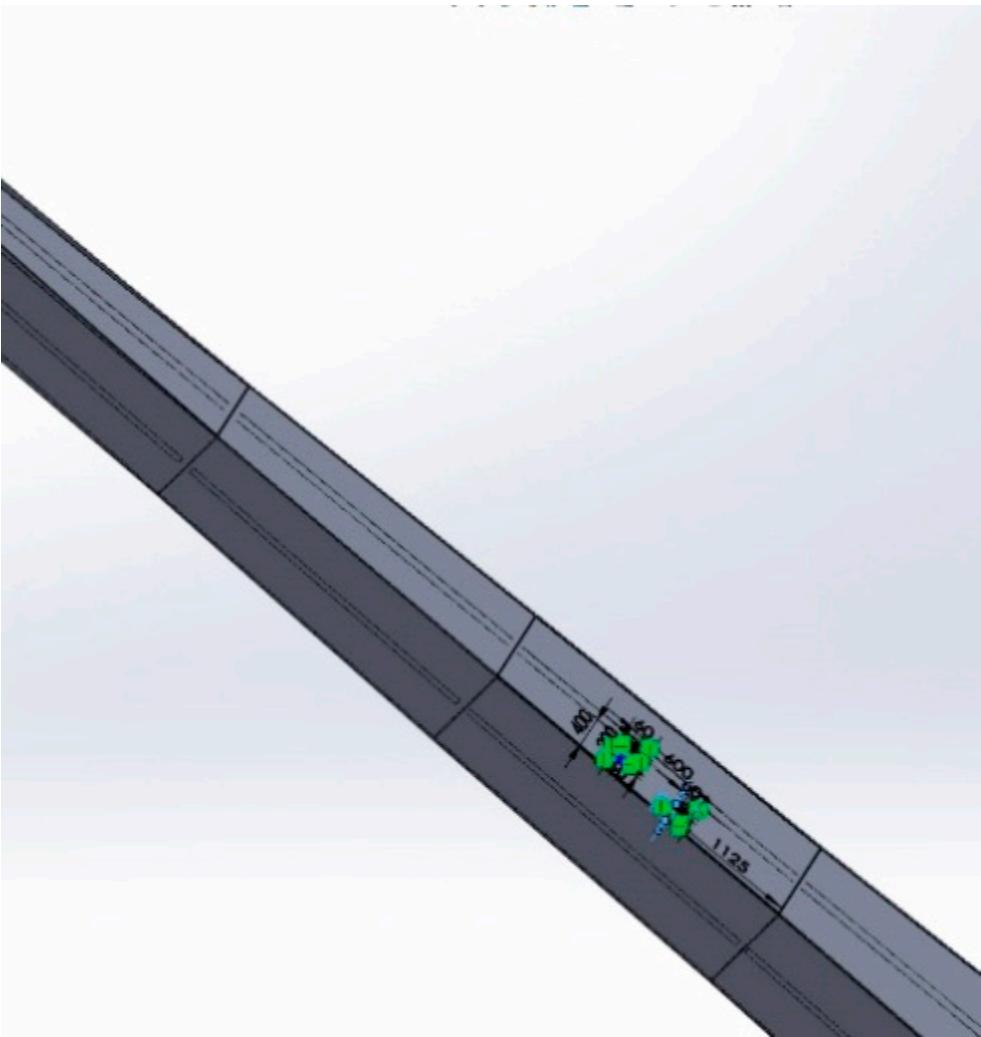
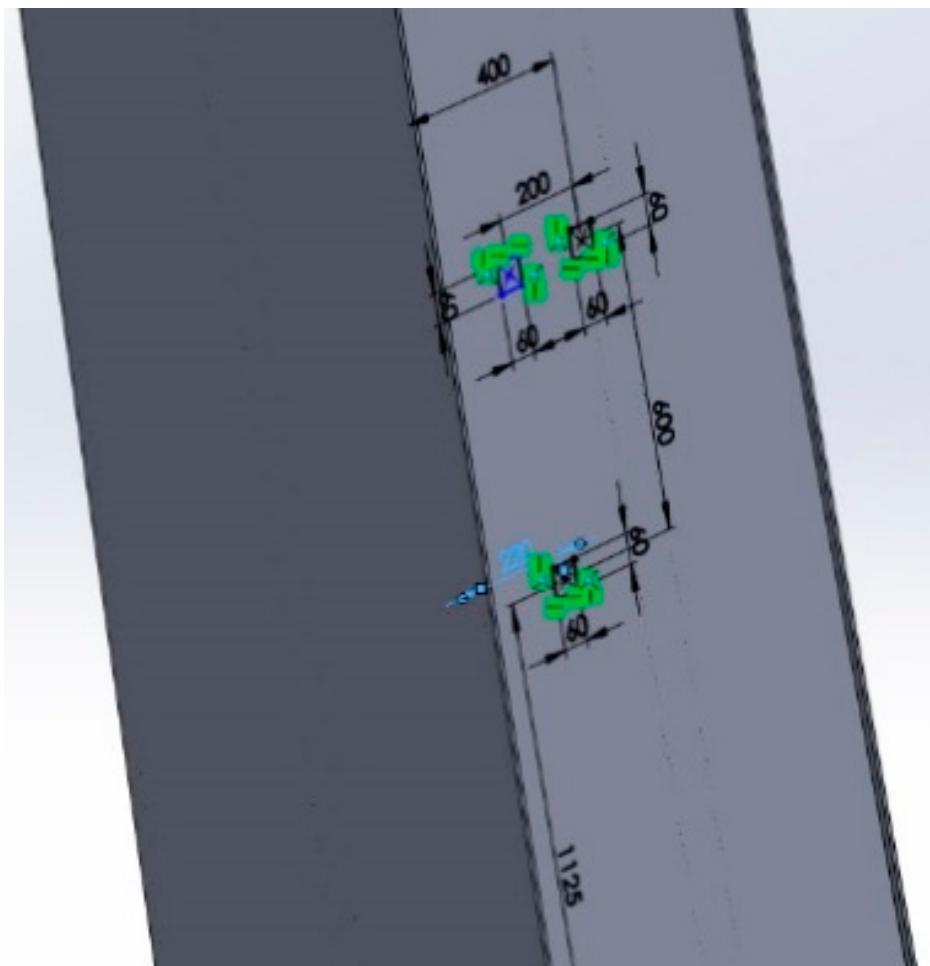


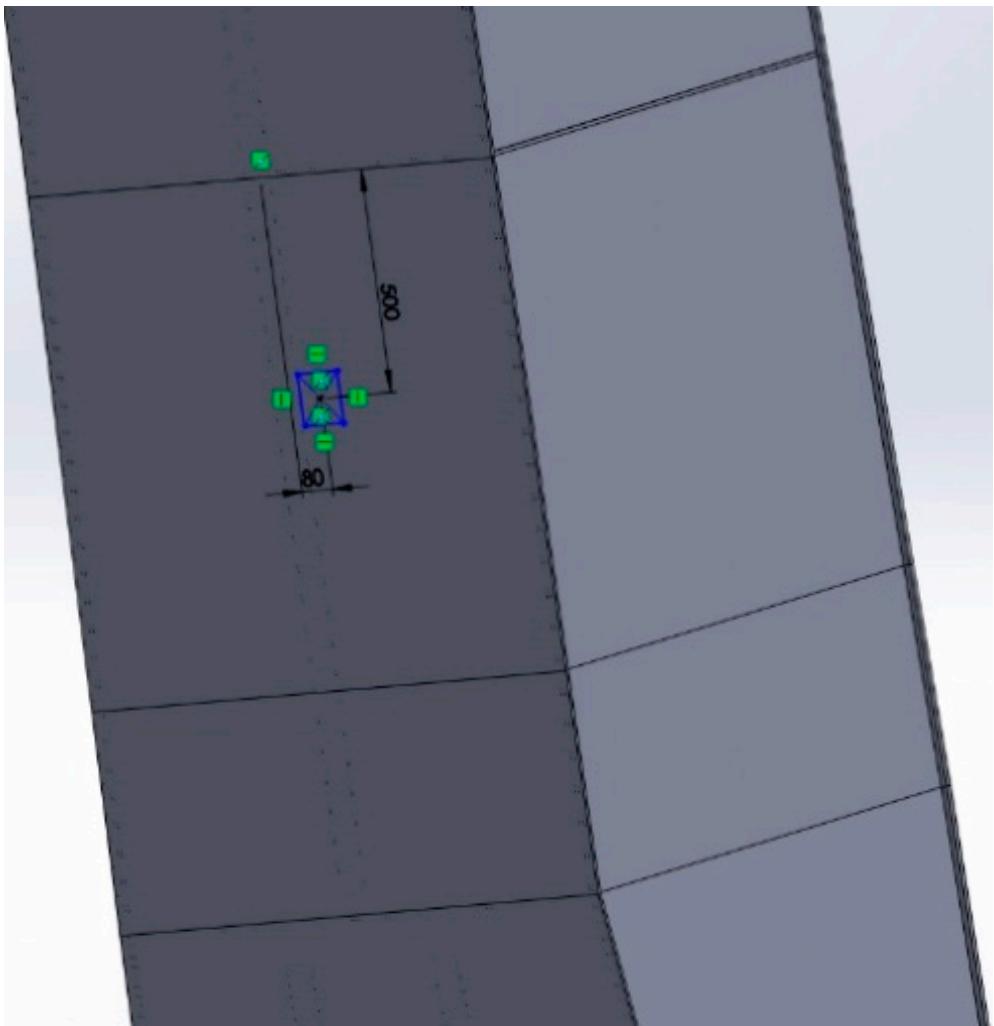
Figure S5. Main boom (arm) section



(a)



(b)



(c)

Figure S6. (a): Transducer positioning scheme; (b): Transducer positioning scheme; (c): Transducer positioning scheme

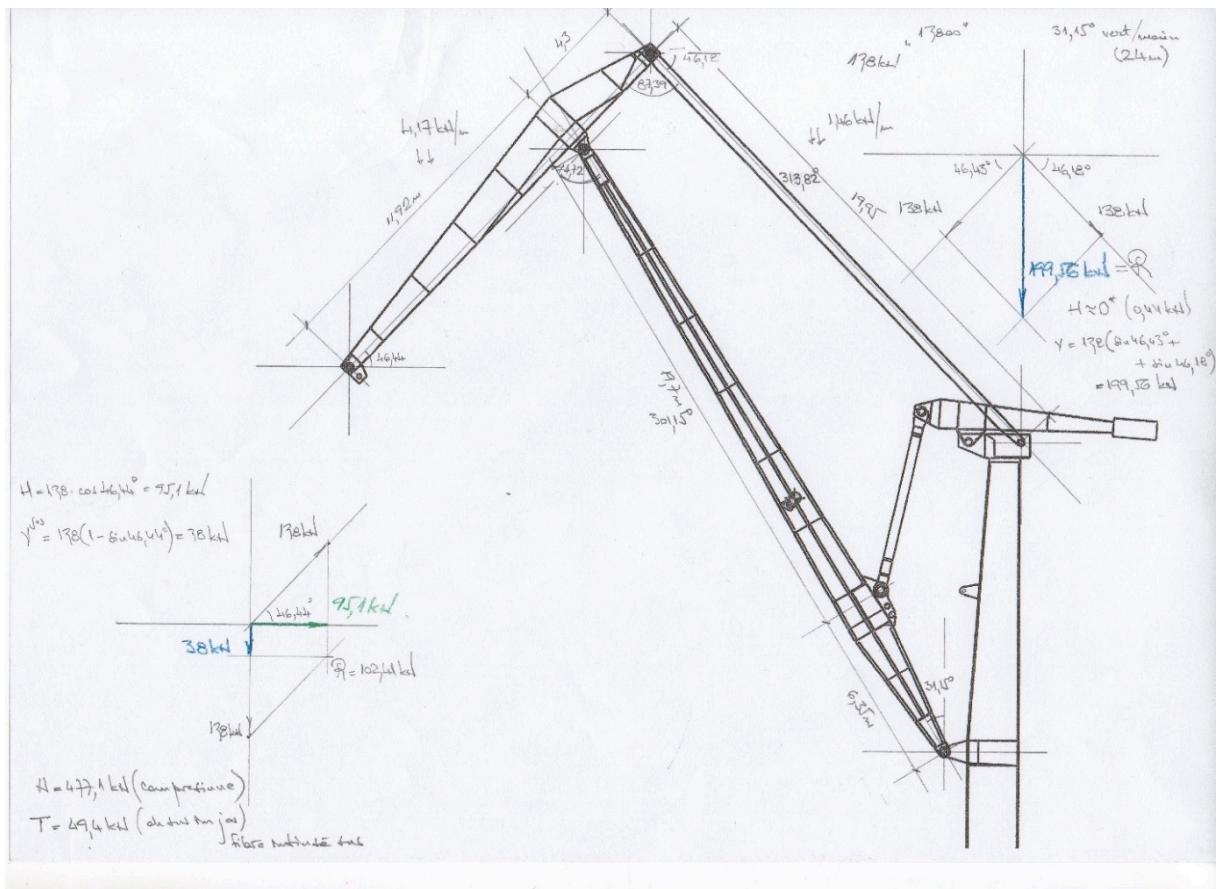


Figure S7. Graphic approach

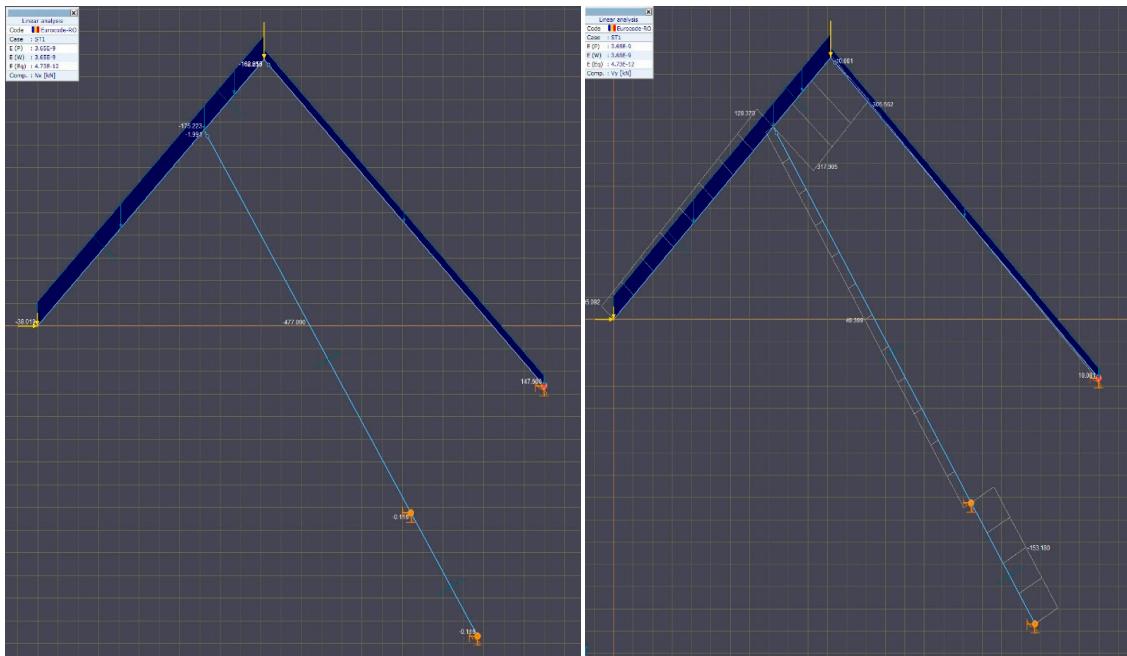


Figure S8. Analytical approach

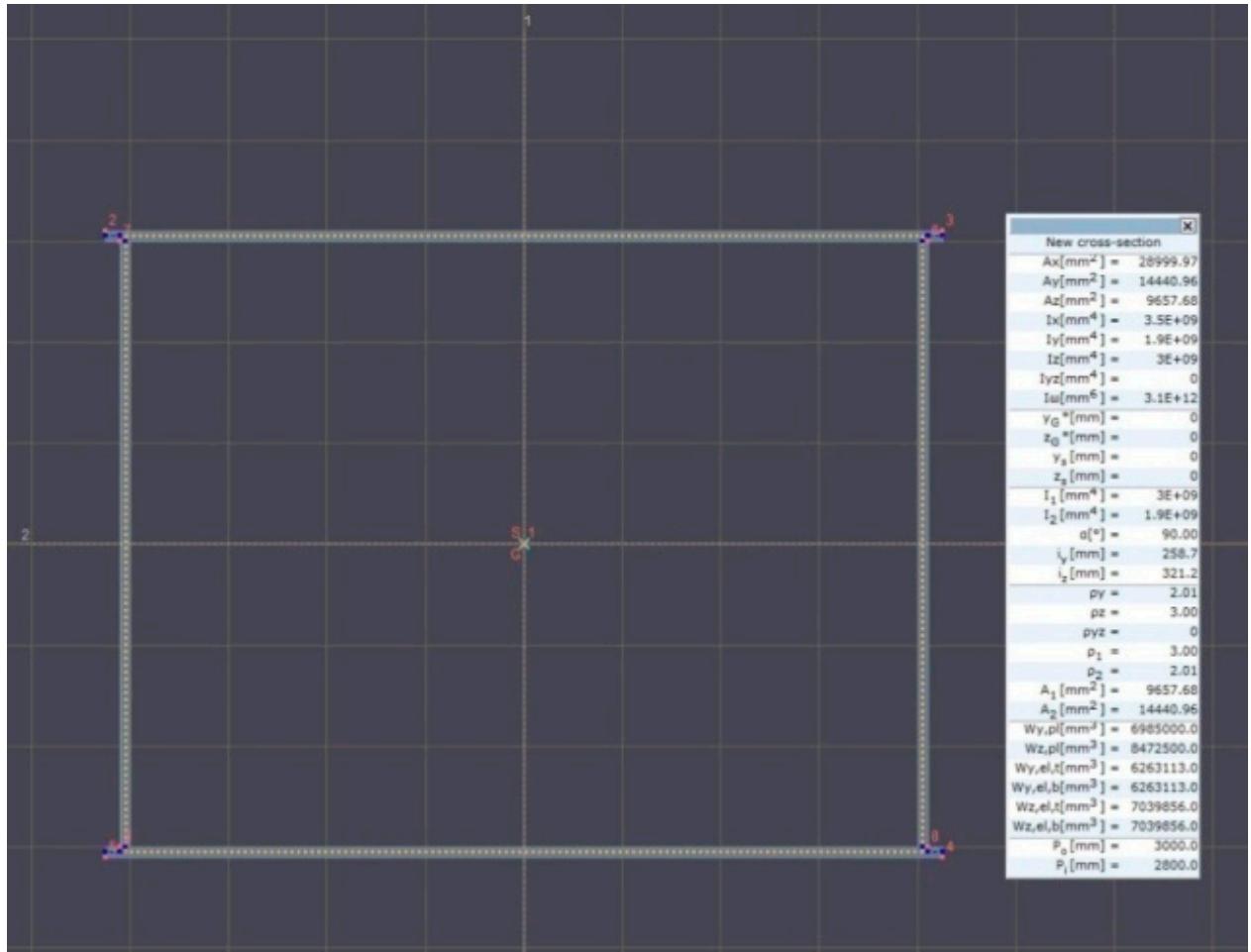


Figure S9. Initial variant cross section

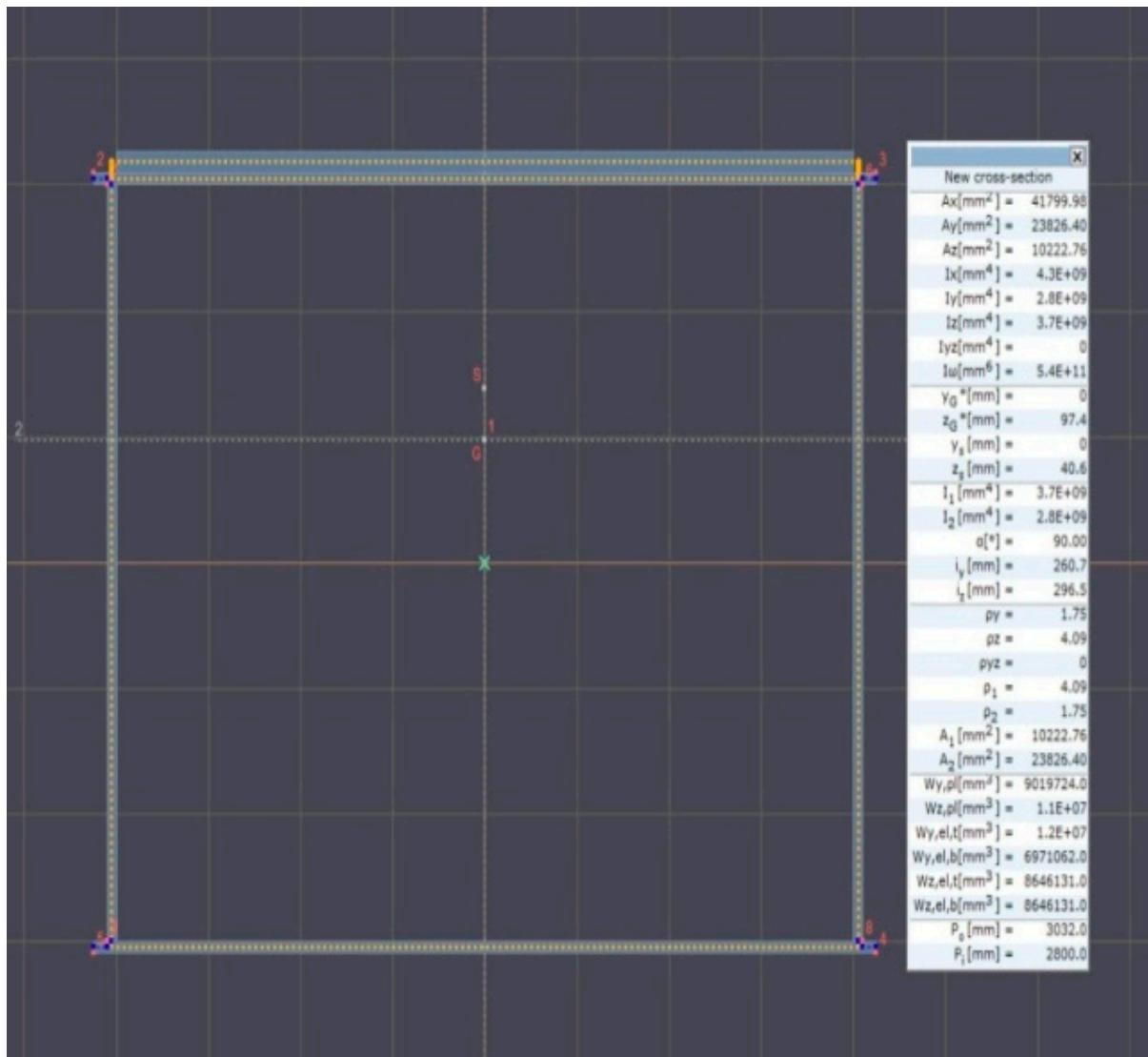


Figure S10. Plated variant cross section

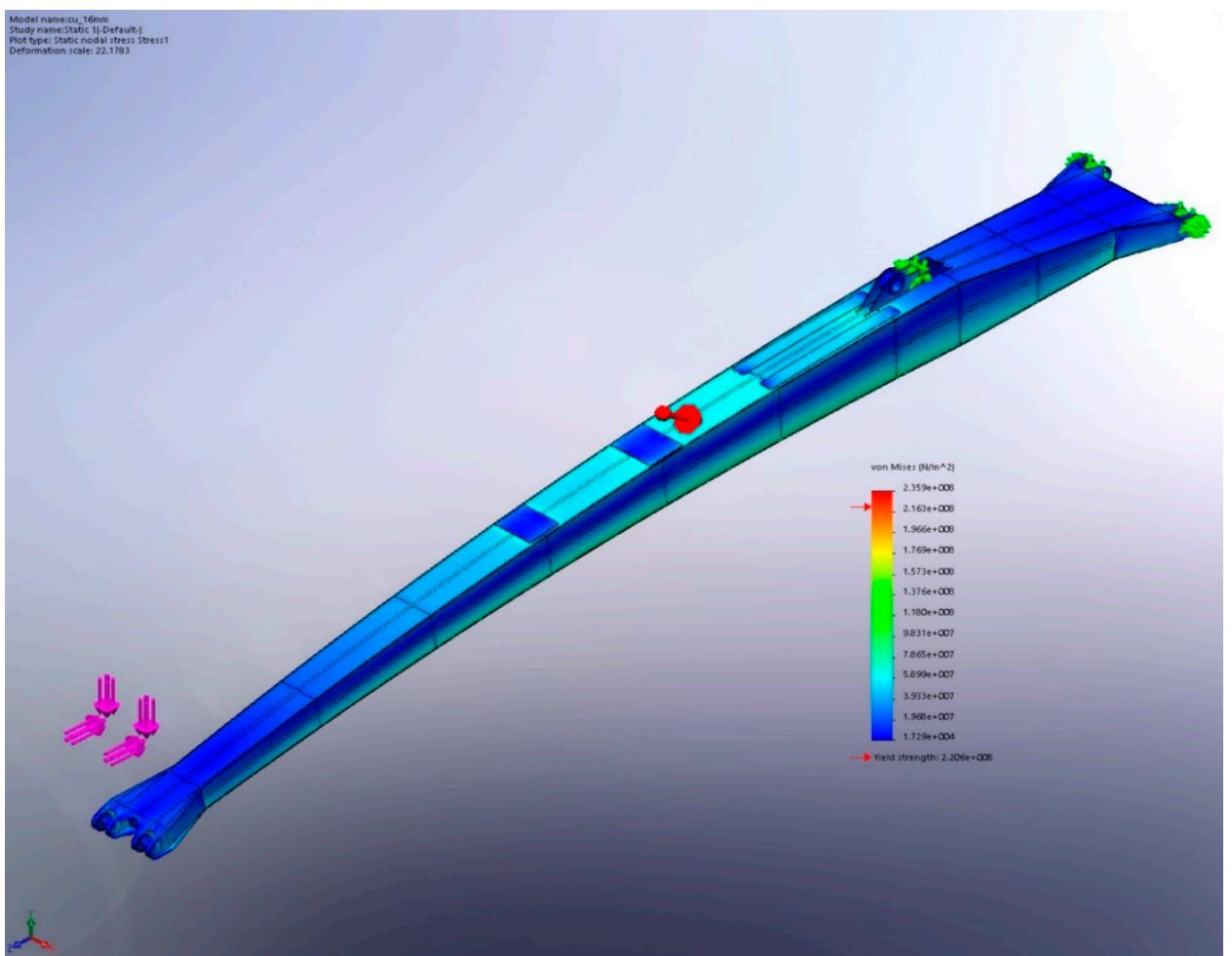


Figure S11. Equivalent normal stress – von Mises criterion.

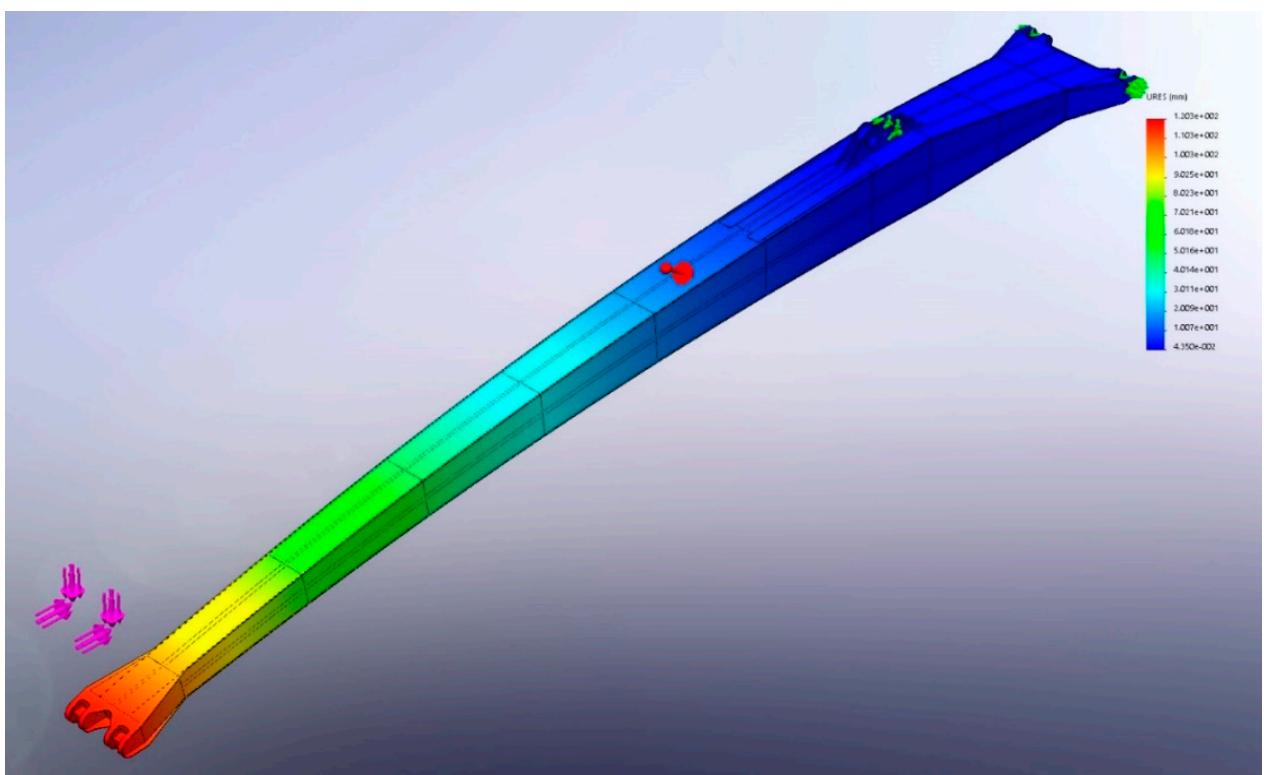


Figure S12. Deformation field.

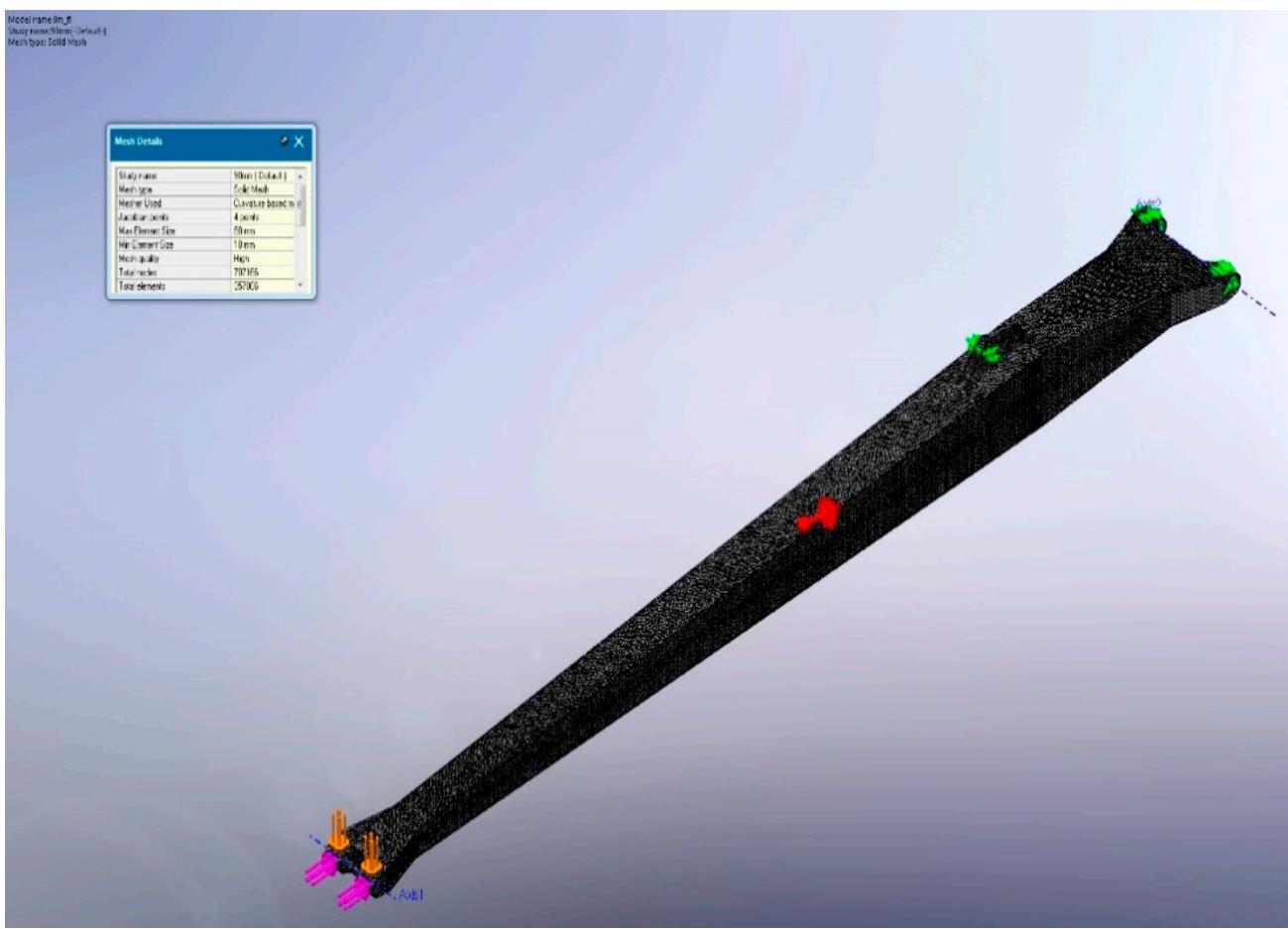


Figure S13. Main boom (arm) meshing.

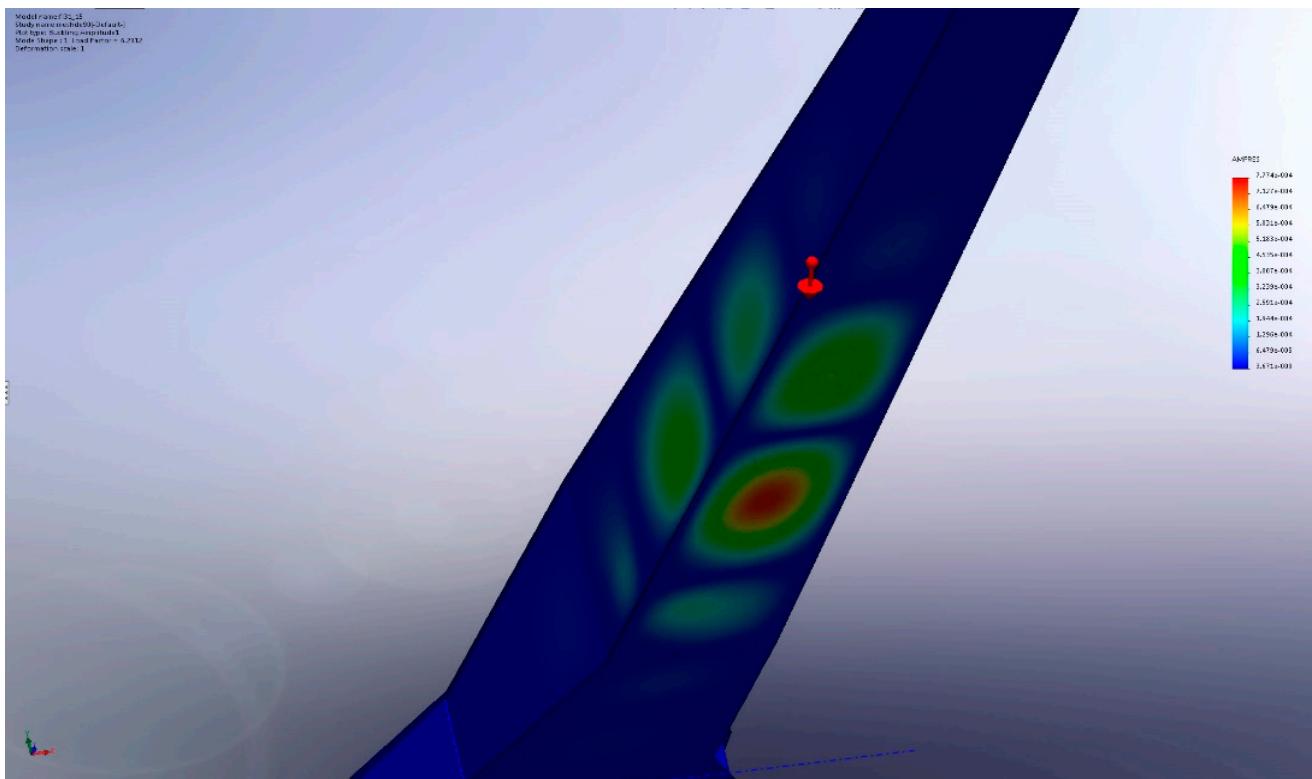


Figure S14. Buckling study.