

Data set title: Supplementary material to article with title: Development and Assessment of a Methodology for Abstraction of Topology Optimization Results to Enable the Substitution of Optimized Beams

DOI: <https://doi.org/10.15480/882.8168>

Handle: <https://hdl.handle.net/11420/42622>

Involved Persons:

Tim Röver (1)
tim.roever@tuhh.de

Maximilian Bader (1)
maximilian.bader@tuhh.de

Karim Asami (1)
karim.asami@tuhh.de

Claus Emmelmann (1)
c.emmelmann@tuhh.de

Ingomar Kelbassa (2,3)
ingomar.kelbassa@iapt.fraunhofer.de

(1) Hamburg University of Technology (TUHH), Institute of Laser and Systems Technologies (iLAS), Harburger Schloßstraße 28, 21079 Hamburg/Germany

(2) Fraunhofer Research Institution for Additive Manufacturing Technologies IAPT, Am Schleusengraben 14, 21029 Hamburg, Germany

(3) Hamburg University of Technology (TUHH), Institute for Industrialization of Smart Materials (ISM), Eißendorfer Straße 40, 21073 Hamburg, Germany

Context: The data is supplementary material to the article with title “Development and Assessment of a Methodology for Abstraction of Topology Optimization Results to Enable the Substitution of Optimized Beams” of the International Congress on Applications of Lasers & Electro-Optics (ICALEO) 2023, 16 – 19 October 2023, Chicago, Illinois, United States.

A more detailed background on the files is given in the article. Mph-files can be opened with the software COMSOL Multiphysics 6.0. Implemented submethodologies can be viewed using the Application Builder of the Software.

Contents of data set:

- 01_Readme.pdf
- 02_Michells_cantilever_TO.stl
- 03_Michells_cantilever_before_app_of_code.mph
- 04_Michells_cantilever_after_app_of_code.mph
- 05_Michells_cantilever_abstraction_section_forces.mph
- 06_L-shape_TO.stl
- 07_MBB_beam_TO.stl

The data is made available under the Attribution 4.0 International (CC BY 4.0) license:

<https://creativecommons.org/licenses/by/4.0/>.