SPASEL

Enabling Industries Through Supportless Pulsed And Shaped Efficient Lasering

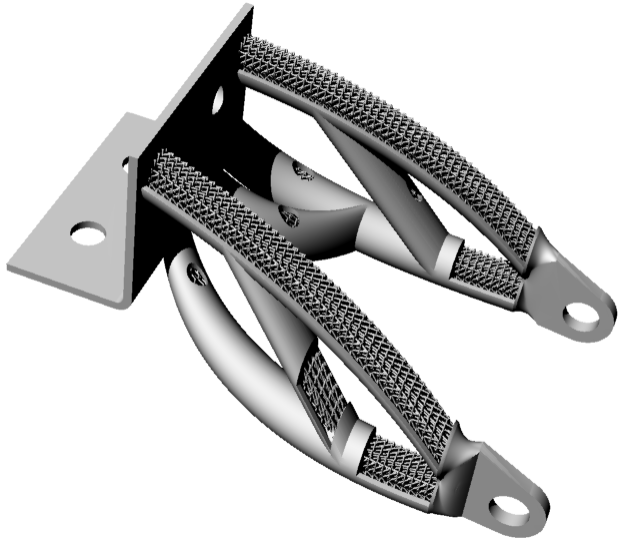
Motivation and Relevance

- Production of complex components currently limited by process restrictions in PBF-LB/M:
- High demands on accuracy depended on melt pool size.
- Overhangs accompanied by heat accumulation and support structures.
- Stress peaks at transition from lattices and fine features to solid material.

Research Area

- Process Development
- Laser-Material Interaction

Picture



Approach

- Using **Adaptive Modulation** for **situational utilizing** of different advantageous phenomena of different lasering mechanisms
- **Requirement based** combination of pulsed, shaped and continuous modulation strategy

Results

- Gaining Understanding in the laser-material interaction with different modulation strategies
- Correlation of process limitations with specific part properties (scan vector length, overhang angle, bridge length)
- Fast and efficient part production

Contact

Jonas Boseila
jonas.boseila@
dap.rwth-aachen.de
www.dap-aachen.de