

Additively manufactured AlSi10Mg vacuum chambers for quantum applications

Contact



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Work content

Within the QGyro+ research project, ultra-high-vacuum chambers are produced using additive manufacturing by means of the laser powder bed fusion (LPBF) process. The advantages of additive manufacturing are reflected in the rapid adaptability of the design, also known as rapid prototyping, as well as in the free design of the chamber. For example cooling channels or lattices can be generated in the volume structures.

The aim of this work is to further develop the current design of the chambers and then print them on the metal printer (One Click Metal). Particular emphasis is placed on post-processing using sandblasting and the removal of support structures. Once the components have been successfully manufactured, the system is then attached to an existing vacuum stand and tested for vacuum compatibility tested for vacuum compatibility.

Type of work

Bachelor thesis

Requirements

- Independent, creative and structured work
- Interest in 3D printing and additive manufacturing
- Enjoy practical work

Starting date

Anytime