

The influence of the process atmosphere on laser-induced graphitization of polycrystalline diamond layers.

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Arbeitsinhalt

In current research, quantum technologies are being developed for mobile applications in the field or onboard satellites. This includes miniaturizing the core components, which include the atom chip, atom source, laser system, and vacuum system. Diamonds' unique thermal, optical, and electrical material properties will be used in this context. For example, diamond-based miniaturized μ -heaters for use as atom sources can be developed by customized coating, structuring, and functionalization of the components.

This thesis aims to develop and evaluate a customized electrical functionalization of polycrystalline diamond layers. In particular, the influence of the process atmosphere on the laser-induced graphitization of the diamond with an ultrashort pulsed laser shall be evaluated.

Art der Arbeit

Master Thesis

Voraussetzungen

- Independent, structured, goal-orientated work
- Interest in microsystems technology, diamond research and practical work

Starttermin

Immediately