

Design, manufacture and evaluation of UHV packages for quantum sensors

Contact



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Work content

Within the QGyro+ research project, miniaturised ultra-high vacuum chambers (UHV packages) are being developed and analysed, which are used to enclose quantum systems at chip level. The UHV packages provide the interference-free habitat for sensors based on quantum effects and enable long-term use in a handy pocket format. In addition to the initial vacuum environment, its lifetime is also important, which can be extended by hermetically sealed bond seams.

The aim of this work is to design, manufacture and evaluate such a UHV package. For this purpose, processes from coating technology, etching technology and lithography are used to create an internal volume as well as the bonding seams for the encapsulation. The systems are then encapsulated in a specially developed ultra-high vacuum bonder.

Type of work

Master thesis

Requirements

- Independent, creative and structured work
- Interest in the semiconductor industry
- Enjoy practical work

Starting date

Anytime