# Development and characterisation of a transient liquid phase bond process for the production of hermetic packages

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## Kontakt


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## Arbeitsinhalt

Hermetic packages form the basis for miniaturised quantum systems. These include, among others, atomic clocks, atomic gyroscopes, atomic interferometers or optically pumped magnetometers. For these packages, the hermetic sealing of two or more components is essential to prevent gas exchange with the environment. This allows the composition of the atmosphere, as well as the pressure conditions inside the cell, to be precisely controlled. For the miniaturisation of the quantum systems, the hermetic cells are to be produced with microtechnological manufacturing processes by hermetically bonding the components with the help of additional thin films. One promising method is the Transient Liquid Phase process (TLP process).

The aim of the work is to develop and evaluate a reliable, reproducible, hermetic bond using TLP.

## Art der Arbeit

Bachelor thesis/
Master thesis

## Voraussetzungen

- Independent working methods
- Interest in microsystem technology

## Starttermin

From now on

30.01.2023

Arbeitsgebiet: Quantentechnologien

Leibniz Universität Hannover

Produktionstechnisches Zentrum Hannover