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P25 - Proton Beam Writing combined with controlled subsequent electrochemical etching for the three-dimensional microstructuring of p-GaAs and p-InP for MEMS applications

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Nowadays, an increasing demand on microelectromechanical systems can be found in the field of capacitive accelerometers, pressure sensors or energy harvesters [1,2].
Three-dimensional microstructures needed for those applications have already been fabricated with the lithographic technique Proton Beam Writing [3].
In particular, just by variation of the irradiation fluence, Proton Beam Writing in combination with fluence depending electrochemical etching proved to be promising for three-dimensional semiconductor microstructuring [4].
Recently, a controlled fabrication of free-standing or undercutted structures was possible due to finite element simulations of the electrochemical etching rates [5].
We are going to present our latest results regarding the microstructuring of p-GaAs and p-InP.

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