

Engineering the morphology of porous InP for waveguide applications

Langa S., Lölkes S., Carstensen J., Hermann M., Böttger G.,
Tiginyanu I. M., Föll H.

<https://doi.org/10.1002/pssc.200561132>

Abstract

We research the possibilities for engineering the morphology of porous structures in n-InP. Lithographic patterning of the sample surface before anodic etching is shown to modify considerably the electric field distribution which, in turn, defines the direction of pore growth inside the specimen. We show that local formation of the nucleation layer combined with the possibility to introduce current-line oriented pores in a controlled manner represents a promising tool for manufacturing waveguide structures based on porous InP. First results on simulation of the properties of these structures are presented.