Buried Waveguides using a Quasi-Planar Process
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Introduction

Context:
The selective oxidation of Al-containing III-V semiconductors with high Al content is an established process to confine light and electrical injection in vertical-cavity surface emitting lasers [1-2] which is also used to create edge-emitting lasers [2], whispering-gallery-mode resonators [3-4], photonic crystal waveguides [5-6] and non linear frequency converters [7].

Problem:
The oxidation is a lateral oxidation process performed from the edges of an etched mesa. The associated drawbacks are:
- Loss of wafer surface planeity
- Complex subsequent steps of fabrication process

Contribution:
Here, we demonstrate a modified process where the oxidation is performed via a discrete set of holes instead of a linear mesa for the fabrication of straight waveguides.

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