

InAs NANOSTRUCTURE DEVICES FABRICATED BY AFM OXIDATION PROCESS

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Abstract

We describe atomic force microscope (AFM) oxidation processes developed for nanofabrication of InAs/(Al)GaSb heterostructures. The fabrication process is based on anodization that occurs between the AFM tip and the semiconductor surfaces. We systematically studied the oxidation characteristics and nanofabrication capabilities for each constituent material in order to develop a simple fabrication processes utilizing AFM oxidation. Device characteristics verifying the nanofabrication capability for each AFM oxidation process are described.