Supplementary Pages

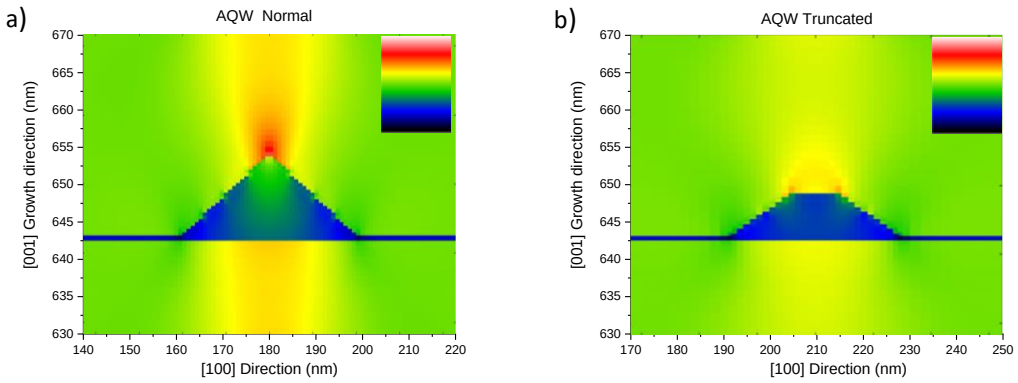

Figure 1. Biaxial stress ε_{xx} nearby an InAs QDs embedded in asymmetric AlGaAs / GaAs barriers. The whole structure consists of 5 periods of AlGaAs/InAs/GaAs layers where the QDs are sketched with a) normal and b) truncated pyramidal geometries. The islands presented in the figure correspond to the QD located in the 3rd stacked layer and in the center of the simulated structure. The scale of ε_{xx} in insets goes from 0.1 to -0.1. For normal pyramidal geometry the reduction of strain above the island but beneath the next layer of QDs, increases the pairing probability in stacked structures.

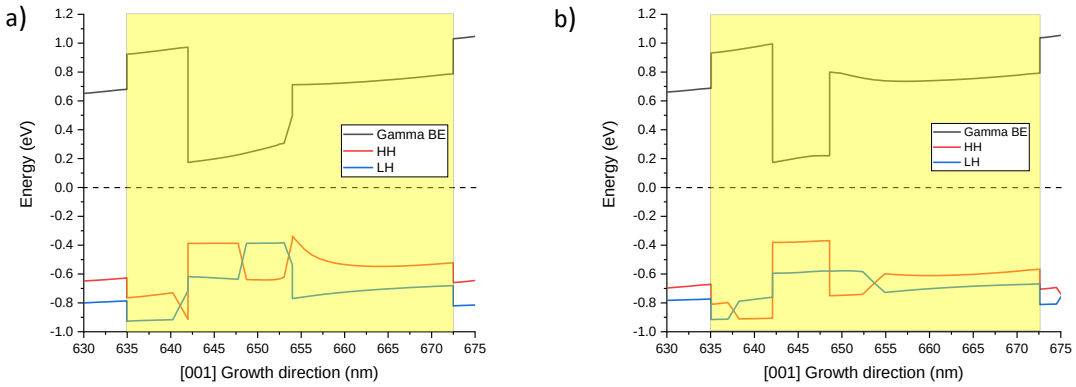

Figure 2. Electronic band structure close to the center of one of the embedded QDs in asymmetrical AlGaAs/GaAs barriers with (a) normal and b) truncated pyramidal geometries. The LH and HH band edges are split depending on the compressive or tensile nature of the strain. Larger number of confined electron states are calculated for the normal pyramid QD structure.

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