

## Effect of the Applied Bias on Mini-Band Structures in Dimer Fibonacci InAs/Ga<sub>1-x</sub>In<sub>x</sub>As Superlattices

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**Abstract :** The effect of a uniform electric field across multi-barrier systems (InAs/In<sub>x</sub>Ga<sub>1-x</sub>As) is exhaustively explored by a computational model using exact Airy function formalism and the transfer-matrix technique. In the case of biased DFHBSL structure a strong reduction in transmission properties was observed and the width of the mini-band structure linearly decreases with the increase of the applied bias. This is due to the confinement of the states in the mini-band structure, which becomes increasingly important (Wannier-Stark Effect).

**Keywords :** dimer fibonacci height barrier superlattices, singular extended state, exact Airy function and transfer matrix formalism, bioinformatics

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