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| **Title:** | Comparative Simulation of GaAs and AlGaAs Based On Triple Barriers-Resonant Tunneling Diode | | |
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| **Abstract:** |  |
| *This research shows the comparison of GaAs and AlGaAs Based triple Barrier Resonant Tunneling Diode. In this paper, the proposed model includes GaAs primarily based on a triple Barrier-Resonant Tunneling Diode (TBRTD) mannequin and it is compared with AlGaAs totally based on Quantum TBRTDs at room temperature. Two specific models are introduced in the proposed system. Firstly, the semi-classical Thomas-Fermi model and secondly, the Hartree quantum cost model to consider the performance of this mannequin in one-of-a-kind temperature. The RTD's performance at extreme low temperatures can be improved with the help of this examination. The results suggest high-height modern technology equipped with AlGaAs RTD and accomplish a high peak to valley ratio in comparison to GaAs RTD. They are based entirely on non-equilibrium Green's characteristic formalization inside ballistic limits. Additionally, contrast aids in comparing each model's higher system. The system was simulated using nanoHuB.org and a related tool that supports the numerous implications discussed in this study.* | |