Simulation and Comparison of Field Effect Transistor of Normal Carbon Nanotubes and tunnel the viewpoint of the effect of the asymmetric effect of the source and drain voltage on the Early Voltage Index

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Using two-dimensional simulation based on the non-equilibrium Green's function framework, we simulate the electronic properties of transistor effects of carbon nanotube with a low-luster edge derivative. The choice of transistor of the Carbon Nanotubes field effect with the source and source of light source is due to the superiority of these transistors compared to stepped and linear transistors on the lower edge of the source and the drain. With the creation of impurities in the channel of this type of transistor, a negative differential resistance was created and the effect of changing the pattern of impurity emission into the device canal on nanotube effects transistors with low-source and drown-edge transitions was investigated using quantum simulation. By studying the effect of voltage change and the use of three new structures in the transistor channel, the effects of carbon nanotubes with the diffusion of source and drain regions, simulated the flow rate of the light, the offset current, the light-to-silent current, the negative differential resistance, and the voltage of the earthen vessel. The simulation results show that the amount of flow of light as well as the luminous flux ratio increases with the formation of the stepping structure. Also, the change in the impurity type of the staircase structure inside the channel has been investigated and it has been shown that the use of impurity type p instead of n reduces digital indicators such as light flow and light-to-dye flow ratio. In the end, by creating a pin structure inside the canal and comparing it with a light source transistor, the effect of the light source region and the drain with the step structure 1 and 3 shows that using the type of PIN injection inside the channel

reduces the flow of light and the ratio of light-to-dye flow Gets

Keywords : field effect transistor, conventional carbon nanotubes, tunnel carbon nanotubes, source springs and drains.