عنوان مقاله:
Graphene Nanoribbon Resonant Tunnelling Transistors

محل انتشار:
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خلاصه مقاله:
The electron-hole symmetry characteristic of graphene nanoribbons (GNRs) gives rise to the electron (hole) tunnelling through valence (conduction) band states. By employing thisproperty we have numerically investigated GNR field effect transistors with highly doped p-type sourceand drain in the presence of a gate voltage-inducedn-type channel using the non-equilibrium Green's function formalism. For long channels, thetraditional FET-like I-V behaviour is achieved, but atshort channels, the sub threshold current opens up an oscillatory dependence on the gate voltage whichis the characteristic current behaviour of resonant tunnelling transistors that exhibit regions of negative .differential resistance

کلمات کلیدی:
Graphene, FETs, Resonant tunnelling FET. Conference publication format, guide to authors