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Quantum transport modelling of graphene Nano scrolls with two potential barrier

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خلاصه مقاله:

Carbon Nano scrolls (CNSs) with tubular structure similar to the open multiwall carbon nanotube have been of hot debate during recent years. Due to its unique property, Graphene Nano scroll (GNS) have attracted many research groups' attention and have been used by them. They specially studied on energy storage devices such as batteries and super capacitors. These devices can be schematically assumed as rolled up graphene sheets with a spiral form. They are predicted to have high mechanical strength, high carrier mobility, and high thermal conductivity. The present paper deals with quantum transmission on DGNS and also models current-voltage characteristic based on quantum transport given structural parameters electronic Properties are analyzed. In addition, 1D quantum transport is presented based on the wave vector approximation on DGNS

كلمات كليدى:

graphene Nano scrolls, double barrier, transmission coefficient, degenerate and nondegenerate regime

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