

Nanotechnology Congress & Expo

August 11-13, 2015 Frankfurt, Germany

Channel length modulation effect on monolayer graphene nanoribbon field effect transistor

Mehdi Saeidmanesh

Universiti Teknologi Malaysia (UTM), Faculty of Electrical Engineering (FKE), Johor, Malaysia

Recently, Graphene Nanoribbon Field Effect Transistors (GNR FETs) is attracting a great deal of attention due to their better performance in comparison with conventional devices. In this paper, channel length Modulation (CLM) effect on the electrical characteristics of GNR FETs is analytically studied and modeled. To this end, the spatial distribution of the electric potential along the channel and current-voltage characteristic of the device are modeled. The obtained results of analytical model are compared against the experimental data of published works. As a result, it is observable that considering the effect of CLM, the current-voltage response of GNR FET is more realistic.

Biography

Mehdi Saeidmanesh is a PhD student at Universiti Teknologi Malaysia (UTM), Faculty of Electrical Engineering, Computational Nanoelectronics Research Group (CoNE). His research interest includes analytical modeling of graphene based devices such as graphene FETs, and graphene gas/bio sensors. He has managed to publish more than 20 papers in reputed journals as the first and co-author.

m.saeidmanesh@gmail.com

Notes: