**Abstract:**

In this paper different types of faults are analyzed using metal oxide semiconductor graphene nanoribbon field effect transistor (MOS-GNRFET) for NOR gate. In case of graphene nanoribbon field effect transistors (GNRFETs), it can be difficult to interpret the fault types by looking at the outputs for a particular input. Various types of faults in terms of power and delay were observed and power and delay for each type of fault were tabulated. Powers for Ideal and fault cases were also compared. Our research provides a means to analyze delay and power consumption of faulty graphene based circuits, which could lead to interpreting fault types by looking at the outputs for a particular input.