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## Comparative study of silicon nanowires and carbon nanotubes' field effect transistors in ballistic transport

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This study demonstrates the comparison of silicon nanowire field effect transistor (SiNWTs) and carbon nanotube field effect transistor (CNTFETs) using FETTOY, a nano device simulator. In this regard, effect of different structural parameters like oxide thickness, gate controlled parameter, thickness of dielectric material of all the structures are analyzed. Results of quantum capacitance, drain current v/s drain voltage, drain current v/s gate voltage, drain induced barrier lowering (DIBL), threshold swing, and injection velocity, on and off current and output conductance for each structure at different temperature will be discussed.

### Biography

Shaukat Ayesha has completed her BS in Electrical Engineering with specialization in Electronic Engineering from Dawood Collage Karachi in 2006. In 2007, she joined Balochistan University of Information Technology, Engineering and Management Sciences (BUIITEMS) as a Lecturer. In 2010, she got Fulbright scholarship and did her Master's in Electrical Engineering from University of Missouri Columbia, USA. In 2013, she rejoined BUIITEMS as an Assistant Professor and is also Chairing Department of Electrical Engineering.

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