



Bose Colloquium

13 January 2017

4:00 p.m.

Fermion

Speaker:

Prof. Samit K. Ray

Director, S. N. Bose National Center for Basic Sciences

Title:

Semiconductor Quantum Structures: Recent Trends

Abstract:

Quantum effects such as size quantization and tunneling, are unavoidable in modern semiconductor devices with dimension below a characteristic length. Modern epitaxial techniques have made possible atomic scale features in the growth or vertical direction, and the advent of nanolithography has made feasible the fabrication of sub-100 nm lateral dimensions. With suitable combinations of such characteristic length scales in the vertical and lateral directions, several quantum devices have been realized. The scaling trend of semiconductor structures with a strong potential for device applications will be discussed.
