In this issue

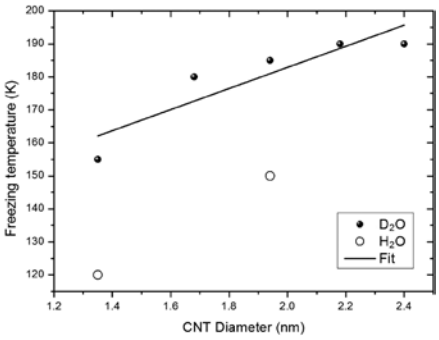
Jamal Hassan, Georgios Diamantopoulos, Dirar Homouz and Georgios Papavassiliou

Water inside carbon nanotubes: structure and dynamics

DOI 10.1515/ntrev-2015-0048
Nanotechnol Rev 2016; 5(3): 341–354

Review: A comprehensive review of recent nuclear magnetic resonance and molecular dynamics simulations on confined water inside carbon nanotubes are presented in this article.

Keywords: molecular simulations; nuclear magnetic resonance; water in carbon nanotubes.



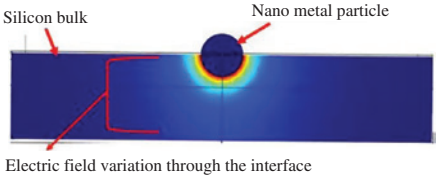
Khouloud Eledlebi, Mohammed Ismail and Moh'd Rezeq

Finite element simulation and analysis of nanometal-semiconductor contacts

DOI 10.1515/ntrev-2015-0039
Nanotechnol Rev 2016; 5(3): 355–362

Research highlight: A finite element simulation software is used to build the geometry of nanometal particle embedded in the surface of semiconductor substrate and analyze the maximum electric field at the interface along with the *I-V* characteristics.

Keywords: nanodevices; nanometal particles; nano-Schottky junctions; thermionic current; tunneling current.



Electric field variation through the interface

Sally Al Shawa, Nayla El-Kork, Ghassan Younes and Mahmoud Korek

Theoretical study with dipole moment calculation of new electronic states of the molecule BF

DOI 10.1515/ntrev-2015-0006
Nanotechnol Rev 2016; 5(3): 363–368

Research highlight: Twelve electronic states of BF molecule that are not yet observed experimentally are reported here for the first time.

Keywords: *ab initio* calculation; dipole moments; electronic structure; potential energy curves; spectroscopic constants.