ANTONIS N. ANDRIOTIS

“Magnetic properties of C_{60}-based polymers”.

Abstract

The newly discovered magnetic phase of the 2-dimensional rhombohedral C_{60}-based polymer is introduced and the nature of its magnetism is discussed. It is proposed that the observed magnetism is associated with structural defects the latter appearing to define a new class of magnetic materials (A.N. Andriotis et al, Phys. Rev. Lett., 90, 026801 (2003)).

“Transport properties of Carbon- and Silicon-based nanotubes”.

Abstract

The transport properties of simple and branched single-wall Carbon-based nanotubes (SWCNs) are discussed. It will be shown that zig-zag symmetric Y-shaped SWCNs exhibit ballistic switching and rectification properties when biased appropriately. (A.N. Andriotis et al, Phys. Rev. Lett., 87, 066802 (2001); ibid, 91, 145501 (2003)). This study is extended to Si-based nanotubes stabilized by the encapsulation of transition metal atoms (Nanoletters, 2, 301 (2002)).