Magnetic properties of interstitial Fe in graphene nanosheet

M. Jafari[1], A. Goodarzi[1], M. Asadpour[1], **M. Jafari**[2]
1Department of physics, K. N. Toosi University of Technology, Tehran, Iran
2Department of industrial engineering, Faculty of engineering (Farabi), University of Tehran, Iran
jafarifr@yahoo.fr

Abstract
In this paper electrical and magnetic properties of interstitial Fe in graphene nanosheet have been investigated. The calculations have been performed in the framework of density functional theory and the GGA approximations within Quantum Espresso package. The band structure calculation show that direct band gap of graphene nanosheet along M direction. According to this calculation, the electronic and magnetic properties of this structure depend to the Fe atom, which will be attained the magnetic metal or magnetic semiconductors.