Abstract Submitted
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Magnetic Nanoparticles in Non-magnetic CNTs and Graphene[1]
MOSES KAYONDO, DEREJE SEIFU, Morgan State University, PHYSICS — Magnetic nanoparticles were embedded in non-magnetic CNTs and graphene matrix to incorporate all the advantages and the unique properties of CNTs and graphene [1]. Composites of CNTs and graphene with magnetic nanoparticles may offer new opportunities for a wide variety of potential applications such as magnetic data storage, magnetic force microscopy tip, electromagnetic interference shields, thermally conductive films, reinforced polymer composites, transparent electrodes for displays, solar cells, gas sensors, magnetic nanofluids, and magnetically guided drug delivery systems. Magnetic nanoparticles coated CNTs can also be used as an electrode in lithium ion battery to replace graphite because of the higher theoretical capacity. Graphene nanocomposites, coated with magnetic sensitive nanoparticles, have demonstrated enhanced magnetic property. **1. D. Seifu,** S. Neupane, L. Giri, S. P. Karna, H. Hong, and M. S. Seehra, "Multilayered graphene acquires ferromagnetism in proximity with magnetite particles", Appl. Phys. Lett., **106**, 212401, (2015).

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Dereje Seifu
Morgan State University, PHYSICS

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