

Effects of Substrate and Coulomb Correlation on Ferromagnetism in Graphene

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Abstract. We report here a tight-binding model calculation taking into account of ferromagnetic order in graphene-on-substrate. The repulsive Coulomb interaction is considered within a mean-field model taking into account of the ferromagnetic moments at each sub-lattice of the honeycomb lattice. The sub-lattice magnetizations are calculated by Zubarev's Green function technique and are solved self-consistently.

Keywords- Graphene, Ferromagnetism, Electron-electron interaction, Tight binding model

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