## Abstract Submitted for the MAR07 Meeting of The American Physical Society

Green's function theory for defects in graphene sheets¹ RAIMUNDO COSTA FILHO, JOAO PEREIRA JUNIOR, Universidade Federal do Ceara, FRANCOIS PEETERS, Universiteit Antwerpen — The presence of defects or impurities in graphene sheets is an important factor in its electronic and magnetic properties. In order to study such effects, we develop a Green's function formalism to calculate the electronic localized sates originated by defects or impurities on a graphene sheet. The equations of motion for the Green's functions are determined in the framework of the tight-binding model. The defects are represented by the absence of carbon atoms on the sheet, while impurities are introduced substitutionaly on the sheet.

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