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Local density of states of graphene with diagonal and off-diagonal disorder N.M.R. PERES, JOAO RICARDO SANTOS, School of Sciences, Physics Department, F. KLIRONOMOS, SHAN-WEN TSAI, University of California, Riverside, Physics Department, J.M.B. LOPES DOS SANTOS, University of Porto, Physics Department, A.H. CASTRO NETO, Boston University, Physics Department
— We study the effect of diagonal and off-diagonal disorder in the local density of states of a graphene sheet. The exact Green's functions for graphene in the presence of a local potential and in the presence of a modification of the local hopping parameter are given. A discussion of the resonances induced by disorder in the local density of states is provided. We obtain the exact Green's function for a vacancy as a limiting procedure applied to the Green's functions with either diagonal or off-diagonal disorder. The exact Green's function in the presence of both local and off-diagonal disorder is given.

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