

Abstract Submitted
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Graphene in a magnetic field and a superlattice potential¹ J.M.B. LOPES DOS SANTOS, CFP and Dept. Fisica, Faculdade de Ciencias, Universidade do Porto, N.M.R. PERES, Centro de Fisica e Dept. Fisica, Universidade do Minho, A.H. CASTRO NETO, Physics Department, Boston University — The problem of electrons in a periodic potential in the presence of a magnetic field is revisited here in the context of graphene, by considering a superlattice periodic perturbation on the Dirac-Weyl equation for massless fermions. We solve the problem of a periodic potential for massless Dirac Fermions in a magnetic field. The relevance for graphene physics arises from the possibility of a superlattice modulation, both in single-layer graphene, due to the substrate, and in few layer graphene due to rotational stacking faults, which give rise to long wavelength moire patterns [1,2].

[1] J. Hass. *et. al* arXiv:0706.2134v1 [cond-mat.mtrl-sci]

[2] JMB Lopes dos Santos, NMR Peres and AH Castro Neto, arXiv:0704.2128v1 [cond-mat.mtrl-sci]

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