

Abstract Submitted
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Delocalization of electrons in the lowest Landau level of disordered graphene¹ PALLAB GOSWAMI, UCLA, XUN JIA, SUDIP CHAKRAVARTY — We investigate analytically and numerically the effects of disorder on the density of states and localization of relativistic two dimensional fermions in the lowest Landau level. We have used the numerical technique pioneered by Huckestein, to establish the localization-delocalization transition and calculate the localization length exponents for different types of disorder. For some combinations of disorder the localization-delocalization transition is shown to belong to a different universality class compared to the localization-delocalization transition in the lowest Landau level of nonrelativistic fermions. Our results have direct relevance to the integer quantum hall effect observed in graphene.

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